INDIA RUBBER WORLD AND ELECTRICAL TRADES REVIEW

Published on the 10th of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 47 TIMES BUILDING, NEW YORK, U. S. A.

JNO. R. DUNLAP. H. C. PEARSON.

Vol. 11. NOVEMBER 10, 1894. No. 2.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES.—Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Trade supplied by the American News Co. and all its branches.

Entered at New York Post Office as mail matter of the second-class.

TABLE OF CONTENTS.

PAGE.

Editorial:
An Important Change ... 31
The Rubber Store's Place in Trade ... 31
Canada and the Pacific Cable ... 32
Chapters in the History of Reclaimed Rubber ... 33
Bolivia as a Source of Rubber Supply ... *William Nelson Black* 35
Brief Abstracts of Recent Rubber Patents ... 36
The Cable Process of Treating Compounded Rubber ... 38
The Rubber Production of West Africa ... 39
The Goodyear Rubber Co. Going up Broadway ... 41
The Growing Use of Rubber for Tires ... 43
The Registration of Trade Marks ... 43
Glimpses of the Bolivian Rubber Country ... 44
A Trifle Gossipy ... 48
New Goods and Specialties *(Illustrated)*:
The Vici Pneumatic Tire ... 50
The Ideal Continuous Spray Atomizer ... 50
An All-Rubber Syringe ... 50
Safety Rubber Heel Lifts ... 50
A Combined Blotter and Ledger Ruler ... 50
A New Ear Syringe ... 51
The Perfect Piston Packing ... 51
The Eagle Disc Eraser ... 51
A Combination Comb and Brush ... 51
Rubber Ankle Boot for Horses ... 51
Some Pretty Piccadillies ... 51
A Rubber Handled Hammer ... 52
A New French Tire ... 52
Letters to the Editor ... 53
Miscellaneous:
Helped to Found A. Hutchinson & Co ... 32
When Hodgman Was in Maiden Lane ... 34
A Rubber Factory That Keeps Growing ... 35
The Rubber Industry of Canada ... 37
A Carriage Firm's Uses of Rubber ... 37
India-Rubber as a Fairy Godmother ... 38
Wheeler Cable *(With portrait)* ... 42
India Rubber in the Stable ... 42
The Invasion of Borneo ... 46
Uncle Sam Buys in Small Lots ... 49
Condition of the Bicycle Tire Trade ... 47
Good Shipments from Singapore ... 47
A New Rubber Boot and Shoe Company ... 48
India-Rubber Law Cases ... 52
Magnolia Metal Company's Successful Injunction Suit ... 52
A Live Question in Manáos ... 57
Rubber Arrivals at Pára ... 60
African Rubber in England ... 60
To Manufacture Goods of Mineral Rubber ... 54
Trade and Personal Notes ... 55
Review of the Rubber Market ... 58

AN IMPORTANT CHANGE.

HEREAFTER THE INDIA RUBBER WORLD will be published the 10th of each month instead of the 15th as formerly. Advertisers and correspondents are requested to bear this fact in mind in sending us communications. The reasons for this move are largely matters of personal convenience in the getting out of the publication, and the handling of the many timely subjects that crystalize toward the end of each month, and we are sure that the change will find favor in the eyes of our friends.

THE RUBBER STORE'S PLACE IN TRADE.

THE choice of a new location by one of the oldest and most successful rubber stores in New York city ought to be a matter of interest to the trade. The idea of the proprietors is to get into the heart of the best retail district within the limits of what they regard as their territory. Instead of fearing competition on the part of stores in other lines, the latter are expected to help them by helping to attract a good class of buyers to that part of the city. Fifty years of experience has shown that the exclusively rubber store has a place in trade which no substitute can fill so well. The druggists have taken a share of the retail rubber business, practically monopolizing certain articles; the toy-shops have taken another, and so have the clothing-store, the shoe-store, the stationer, the sporting-goods dealer, and the hardwareman. Finally, the big "department stores" tried hard to get a good hold on the rubber trade. Meanwhile the exclusively rubber stores have continued to prosper and to increase in number. They are the last stores to be sold out at auction. They are all the time springing up in new territory, while not losing ground in the old. But nowhere need they long fear competition from houses outside the trade.

There are many reasons why the exclusively rubber store should hold its own against the other stores mentioned. First, in no other branch of business can the stores afford to carry a full line of rubber goods. The shoe-store naturally will find many customers for "rubbers," the clothing-store for mackintoshes, and the drug-store for syringes, but all these articles will be found under one roof only in the exclusively rubber store. Many buyers, therefore, will find an advantage on the score of convenience in going to one store instead of a half-dozen for the rubber goods they need.

Leaving convenience apart, the buyer of rubber goods goes to an established house in that trade with a greater feeling of confidence in the quality of the goods shown than he would feel in a house where the rubber counter is perhaps a side issue, in inexperienced hands. All buyers do not feel competent to judge of the quality of rubber goods, and when it comes to dependence upon the dealer, the established rubber-goods house naturally will be trusted first. This is in keeping with a general rule, which applies equally to the hardwareman under the

shadow of the "department store" who views without alarm the attempts of the latter to cut into his trade. The best goods are apt to be found in a store making a specialty of a certain branch of trade, and the best buyers are apt to go to such stores.

Another point in favor of the exclusively rubber house is the need of such care and treatment for rubber goods as they can hardly receive from any but persons of experience and special training in the trade. This is necessary merely to keep the goods in saleable condition. But again special knowledge such as only experience can give is needed to teach one how to select stock for a trade in rubber, and otherwise to make the business profitable. Such special fitness is not apt to be paid for by houses in which rubber is only an incident of the trade.

Of course mistakes can be made in the rubber trade as in all other lines, and not every man can hope to succeed in it. Least of all is this a business for a man to enter with a certainty of success because he has failed in everything else. But the young man with a taste for the trade, who has qualified himself for it, need not be deterred from devoting himself to it by fear that any other class of houses will ever displace the exclusively rubber store.

CANADA AND THE PACIFIC CABLE.

THE conditions under which the Canadian government recently advertised for bids for the construction of a Pacific cable were framed at the colonial conference held at Ottawa during the summer. It was the opinion of the conference that telegraphic communication, *free from foreign control*, should exist between the Dominion of Canada and Australasia, and that Her Majesty's government should be requested to begin at once suitable surveys of the Pacific, the cost to be borne equally by Great Britain, Canada, and the Australian colonies. The Canadian government was requested, meanwhile, to invite proposals from cable-manufacturers and generally to promote the establishment of the undertaking, the preliminary expenses incurred to be shared by the other colonies.

It is probable, whatever may be the outcome of the present movement, that the first cable to cross the Pacific will be a result of such considerations as influenced the conference at Ottawa. Two potent reasons now discourage the investment of private capital in the building of a Pacific cable: the great length of line and consequent cost as compared with the Atlantic cables, and the fact that every important commercial center on the other side of the Pacific is already in telegraphic communication with the rest of the world by some other route. But while commercial necessities alone may not yet be such as to call for a Pacific cable, there may be political reasons of sufficient weight to bring governmental aid to the undertaking.

The map of the world is dotted with British colonies, and without an important exception these are connected by wire with the commercial and political center of the empire. The question of placing a colonial dependency in closer touch with the mother country has not been decided always by the prospect of immediate profits from the connecting link. "It is not good politics," said Lord Rosemont in Parliament fifty years ago, speaking for the government, "to allow American ships to carry our mails across the Atlantic," and American ships have never carried them since. The same national spirit makes distasteful to Englishmen the fact that every existing telegraph line to their colonies in India, Australia, and South Africa somewhere passes over foreign territory. But with the lines now connecting England with Canada, and crossing Canada to the Pacific, a cable thence to Australia would connect with existing lines to every one of the colonies referred to, without touching other than British soil. This point was an influential one with the delegates at Ottawa.

But as a business proposition Englishmen may conclude that this is the time to build a cable across the Pacific. The French have made an actual beginning, used now as a basis for inviting more capital, and there have been rumors of such a thing as the annexation of Hawaii to the United States and the building of an American cable to strengthen the bonds. Certainly one Pacific cable would be enough in our time, and the British must be first, or wait a long time before they have another chance. It may be added that the scientific standing of Mr. Sandford Fleming, who is promoting the Canadian Pacific cable, is such as to help the cause, and the same is true of the interest already manifested in it by the head of the great Siemens cable-laying firm.

HELPED TO FOUND A. HUTCHINSON & CO.

THE death of J. Kennedy Smyth, an old-time New York merchant, at Morris Heights, N. J., on October 25, was a reminder that few representatives of the early rubber trade now survive. Mr. Smyth was not a rubber man, beyond being an investor in the formation of the rubber house of Hutchinson, in France. He belonged to the New York importing house of Henderson, Smyth & Co., at the time when his partner, John C. Henderson, joined Hiram M. Hutchinson in buying the rights for the European continent under the rubber patents of Charles Goodyear. Mr. Hutchinson, who had been president of the old Naugatuck India Rubber Co., went to France and established rubber factories at Montarges and in Paris, which still exist, together with a factory established later at Mannheim, Germany. Under the management of a son, Alcazar Hutchinson, the firm of A. Hutchinson & Co. was organized. Now that the latter is no longer alive, his sons are principal directors of the business, managed since July 1 last as a corporation with $650,000 capital and producing a great variety of rubber goods. The death of Mr. Smyth probably removes the last survivor of the original subscribers to the undertaking of introducing the Goodyear processes on the continent.

LATELY all the Associated Press journals have been printing a report of a $2,500,000 trust deed of the Mechanical Rubber Co., filed in the county recorder's office at Cleveland, Ohio. As the deed in question was filed about fourteen months ago, at which time it was summarized in THE INDIA RUBBER WORLD, it cannot be claimed for our daily contemporaries that they have distinguished themselves in enterprise.

CHAPTERS IN THE HISTORY OF RECLAIMED RUBBER.

The Defense of the Raymond Rubber Co.—I.

FOLLOWING the answer of the defendant in the pending suit of the Chemical Rubber Co. *v.* the Raymond Rubber Co. *et al.*, printed in the last issue of THE INDIA RUBBER WORLD, will be given the testimony which is to be offered to prove the knowledge and use of the alleged inventions covered by the several patents at issue, prior to the dates of the application for the several patents.

EMANUEL GUGGENHEIMER, of Philadelphia, being sworn before a special examiner in that city, deposed that he was engaged in the business of separating rubber from cotton fiber and wool fiber, beginning in 1873 and ending in 1876, at Front and Reed streets, Philadelphia. After experimenting for some time, the business was begun on a commercial scale about July 4, 1874, and the largest year's business was during the ensuing twelve months. He had a partner, Henry Lowy, of Newark, N. J., under the firm style of Guggenheimer & Lowy. Their raw material was the waste of rubber-shoe factories and rubber-clothing factories, and other rags containing cotton or woolen fiber (or both) on one side and rubber on the other.

The appliances used were a steam-boiler and engine; three enamel-lined caldrons, the largest holding sixty gallons; heavy wooden boxes, some of them metal-lined, and each 8×4 feet, and 1½ feet deep; a revolving drum-shaped cleaning-machine or washing-machine; and a pair of iron rollers. Two of the caldrons rested upon small brick furnaces, and these were provided with steam pipes of iron, with rubber-hose additions, leading from the boiler above mentioned.

The rags were separated into classes, according to their quality and the different treatment required, namely: (1) material containing cotton fiber; (2) that containing woolen fiber; and (3) that containing both cotton and wool. The various methods of treatment were described by the witness substantially as follows:*

I. Cotton-fiber rags, in a moistened or damp condition, were placed in a caldron and the steam turned upon them by means of the pipe from the boiler. Immediately afterward sulphuric-acid solution containing 7 to 10 per cent. of the acid was poured upon them. At the same time heat came from the furnace beneath the caldron, the "cooking" process lasting for an hour, during which time the mass of rags would be stirred. The fiber was then lifted with wooden forks or conveyed by wire baskets to one of the wooden boxes already described, and left in it to "cool off." Four or five days were sometimes sufficient, but if the stock was not needed sooner, it would be left for weeks. The mass next went into the washing-machine, revolved by a belt from the engine while hot water poured through to clean the rubber, the fiber having disappeared. When rubber had been reclaimed from cotton fiber, it was easily cleaned, as the pieces stood out separately, as distinguished from "running together." Finally the rubber was laid in the drying-room until it was in good condition for market.

The same order was not always observed in filling the caldrons; for instance, the sulphuric acid might be put in before the rags. The same acid might be used several times, one lot of rags being thrown in as another was lifted out, but in such case a small amount of fresh acid would be added. The third caldron—the one without a furnace underneath—was used for the "thin cotton stock," in which the fiber was quickly burned out by the acid, without the addition of heat, with the exception, perhaps, of hot water.

II. Wool fiber rags, subjected to the steam-bath, had poured over them a caustic-of-soda solution of 8 to 10 per cent., and were boiled from one to three hours over a fire, the caldron being covered with a board to retain as much heat as possible. The mass was stirred with a stick through a hole in the cover. Or, after starting a fire, water would be poured in the caldron, lumps of caustic of soda put in and dissolved, the rags put into this solution, the steam turned on, and the caldron covered.

The mass resulting from this operation was run through the washing machine, as in the treatment of cotton fiber. Rubber reclaimed from woolen fiber, however, having a tendency to "run together," was run between the two iron rollers, also worked by the steam-engine, after which it went to the drying-room. Sometimes such rubber was sold without having gone between the rollers.

III. Fiber containing both wool and cotton was subjected to a double treatment. The first step was the application of caustic of soda, precisely as in the case of wool-fiber rags, but this destroyed only the wool. After washing in the revolving drum, what remained of the mass was subjected to the sulphuric-acid treatment, followed by "cooling off" in the wooden boxes, washing, and drying, just as in the case of reclaiming rubber from cotton alone. In the treatment here described a stronger acid solution (15 to 20 per cent.) was used, and the rubber was not run between the rollers.

The witness testified that his firm had bought rags from mills at New Brunswick and Newark, N. J., the National Rubber Co. (Bristol, R. I.) and Bernhard Lowy, a scrap-dealer at Newark, N. J., and father of his partner in business. He testified further that the product from his factory had been sold to the Morrisville (Pa.) Rubber Co., the Star Rubber Co., Mercer Rubber Co., New York Belting and Packing Co., New Jersey Car Spring and Rubber Co., and other rubber-manufacturers.

He testified that unvulcanized scrap had been used, mostly, but that when some vulcanized material got into the caldrons by accident it seemed to take the same treatment as the other scrap, with satisfactory results.

* A few of the details in these paragraphs have been drawn from the testimony of the witness under cross-examination, as serving to make the account of the processes more complete.—THE EDITOR.

The cross-examination related largely to the amount of business which the witness claimed to have done in reclaiming rubber by the processes described by him. The testimony of Mr. Guggenheimer was followed by that of Charles D. Margerum, a witness produced on behalf of the defendants, who deposed with regard to his employment in 1874 by Guggenheimer.

ROWLAND H. GARDNER, a witness called on the part of the defendants, deposed at Colchester, Conn., February 17, 1892, that he was at that time superintendent of the Colchester Rubber Co. He testified that he entered the employment of the old Hayward Rubber Co., at Colchester, in 1858, remaining with them until 1864; that he again became employed by the company in January, 1869, remaining until 1881 or 1882. At the date mentioned, in 1869, the Hayward Rubber Co. were reclaiming rubber from scrap—both cotton and woolen. The first tanks used were linseed-oil hogsheads, boiled to get the oil out of the wood. At first a steam-pipe was introduced at the bottom of the hogshead by screwing it into a hole there, while later the pipe was introduced at the top, reaching to the bottom. The hogshead was filled by putting in 100 pounds of scrap to 18 pounds of sulphuric acid and 20 25 gallons of water, after which steam was turned on and the mass was kept boiling slowly for 72 hours. The liquid in the tank was then released by withdrawing a plug at the bottom, and the tank was filled with clear water, the cleansing being hastened by vigorous stirring of the scrap. The rubber was then taken out, spread upon wooden trays, taken into the vulcanizing-room of the boot-factory, and dried thoroughly in the hot air. Batches of a few pounds were added to an equal weight of new rubber and the whole ground fine and worked into thin sheets, used first for uppers and later for soles of shoes. The amount of scrap used when the witness first became acquainted with the business averaged 300 pounds per week, together with 54 pounds of acid. The process was in use continually, steam being kept up in the factory day and night and Sundays. Toward the end of the period named wooden tanks made for the purpose were used instead of the linseed oil hogsheads, and the capacity was increased until 450 pounds of scrap was the weekly average, with two carboys of acid. The time for boiling the scrap was reduced to 25 to 40 hours, and the reclaimed rubber was put through a washer instead of going to the vulcanizing-room to dry. The iron steam-pipes at first used would be eaten off by the acid in two or three days, and brass pipes were substituted with better results. The Colchester Rubber Co., the witness deposed, were not reclaiming any rubber.

Cross-examined, witness said that it had been a part of his duty at one period to superintend the filling and emptying of these tanks; that he knew personally that the proportions named on his direct examination were correct; that he had seen Daniel E. Hayward and knew of his relationship to Nathaniel Hayward, but he had never been informed that the rubber-reclaiming process used at the Hayward factory was conducted in accordance with a patent granted to the Haywards.

At the same time and place the depositions of other former employés of the Hayward Rubber Co. were taken. George B. Avery, of Colchester, deposed that, beginning about 1865–67, he was frequently employed temporarily to run a steam-engine at the Hayward rubber works. He saw a tank or tanks into which he saw placed rubber scrap, water, and what he supposed to be vitriol poured from carboys, the whole being heated by steam from the boilers. He had nothing to do with the process other than to let on or turn off the steam. This treatment of rags continued until the Hayward Rubber Co. went out of business. ——William Foote, aged 75, deposed that he began work for the Hayward Rubber Co. in 1851 and again in 1863, from which time until the Hayward company ceased to exist he had charge of the packing-room. He saw rubber reclaimed from 1865 so long as he remained there; saw hogsheads filled with rags, over which was poured from carboys what he supposed to be vitriol.——Joseph Smith began in 1867 to do jobs of blacksmithing for the Hayward Rubber Co., and was often inside their works. He described the hogsheads for tanks for reclaiming rubber, which he sometimes was called in to repair.——Thomas Doolan deposed that he entered the employment of the Hayward Rubber Co. twenty years before, at which time they were already reclaiming rubber. It was a part of his work for several years to put the rags into the tanks, and to pour in the vitriol. A special house was finally built for this process, with three tanks—two for boiling the scrap and one for washing it after boiling.

WHEN HODGMAN WAS IN MAIDEN LANE.

AN old New York newspaper which lately found its way to THE INDIA RUBBER WORLD office contained an advertisement which suggested that rubber stores began a good while ago to exhibit a wide variety of manufactures. The newspaper was the New York *Evening Post* of October 28, 1846, and the advertisement was like this:

> D. HODGMAN, Manufacturer and Dealer in India Rubber Goods, Warehouse, 27 Maiden lane, New York.—India Rubber Carriage Cloth, Air Beds, Pillows, Cushions, Life Preservers, Life Belts and Life Jackets; every variety of India Rubber Shoes, for Ladies and Gentlemen. Door Springs, Shirred Suspenders, Macintosh Coats, Cloaks and Capes, India Rubber Caps, Pantaloons, Long and Short Boots, Wading Pantaloons, Water Bottles, Travelling Bags, Horse Covers, Plaster Cloth, Cloth for Garments together with almost every description of India Rubber Goods. For sale wholesale and retail. 028

The same newspaper in the same week of October this year contained the advertisement of the same firm, but in a new location, of course, and in business on a wonderfully enlarged scale. It is doubtful whether there is another firm in the city whose advertisements have been seen by more newspaper readers than that whose old-time announcement is here shown.

ONE advantage in using rubber tires is that the durability of the bicycle or carriage is thereby increased. With respect to bearing strains and jars, the tire may be said to do all the work.

A LEADING tire-manufacturer advises bicyclists to change wheels now and then, since the rear tire would otherwise wear out faster than the other. Of course this can be done only when the wheels are of the same size.

BOLIVIA AS A SOURCE OF RUBBER SUPPLY.

By William Nelson Black.

IN the August issue of THE INDIA RUBBER WORLD was given some account of Bolivia, and a new scheme for the improvement of navigation in that country. East of the Andes, in the three great provinces of La Paz, Beni, and Santa Cruz, there is a vast territory seamed by large rivers and their tributaries, and the banks of these streams are covered with rubber-trees. On the same territory Peruvian bark may be obtained in practically unlimited quantities, and all kinds of tropical products abound. Besides, there is gold in the river sands. Yet all this potential wealth remains nearly worthless on account of the lack of any well developed system of transportation; and it is for the development of such a system that the plans of the Bolivian government have been conceived.

But there seems to have been a slight error in the statement of these plans. Looking at a map, it will be seen that the rivers of the two provinces of Beni and Santa Cruz flow into the Madeira river of Brazil, forming the river, in fact, and pouring their waters through its channel into the Amazon. It is a badly obstructed river, full of rapids for a distance of 150 miles; but it offers the most direct channel to the sea, and in the absence of more explicit information it was supposed by the writer that the canals projected by the Bolivian government were around those obstructing rapids. This, it seems, however, is not the fact. The work, it is thought, would be too expensive. But from the province of La Paz to the northwestward of the Beni river, and at no great distance from it, the Purus river flows directly into the Amazon; and it is thought to be a very light work, involving the expenditure of no more than $5,000,000 to connect the two rivers by a canal. This is the plan of the Bolivian government; and it seems to be very well conceived either from an engineering or commercial point of view. It is hardly conceivable that the Bolivian government would find any difficulty in paying the interest on $700,000, the total sum which its guarantee covers, and a company operating in the district made accessible by the work could not fail of finding its operations profitable.

A company is now being organized in the United States for the purpose of accepting the Bolivian guarantee and undertaking the work. Of course it cannot be a transportation company exclusively. The district covered is of vast extent, enclosing and bounded by some thousands of miles of navigable streams; but it is sparsely settled, and the chief source of profit must be found in developing the natural wealth as well as in bringing it to market. If the rivers flow over gold, as it is said, machinery for extracting it must be carried to the spot, and the India-rubber and Peruvian bark trees that prospectors have seen in such illimitable numbers must be made contributors to the demands of industry and commerce.

The great drawback to enterprise in this direction is the uncertainty in political affairs in all the South American republics. We know who is president of one of them today, but we never know who may be president to-morrow. The people of Bolivia, however, seem to be somewhat more level headed than those of the neighboring republics. The truth about Bolivia is that while lying in the torrid zone a part of the surface is elevated to a temperate altitude, and the larger part of her population have been enabled to escape those torrid influences that seem to produce political earthquakes and politico-volcanic eruptions. On the Altoplaniere of Bolivia, 2½ miles above the Pacific ocean and on the borders of her beautiful lake, her people are surrounded by temperate influences, and seem to live rather placid lives.

This is an enterprise of a great deal of meaning to the rubber industry. Make all the rivers of Bolivia navigable, and place them within easy communication with each other by means of canals, which the topography of the country will permit to be cheaply constructed wherever they are needed, and the Brazilian state of Pará even may soon be compelled to take second place in the production of the raw material for rubber manufactures. Bolivia is several thousand miles further away from the American and European market than Pará, it is true; but her forests are virginal and cheap, and a few thousand miles of river transportation will not prove to be much of a drawback.

Manufacturers of rubber goods doubtless will welcome the time when the new territory begins to contribute to their supply of raw material. The magnitude of the rubber industry, more than any other industry prosecuted perhaps, will be dependent on the supply of its raw material; for rubber is adaptable for scores of uses not yet conceived simply because the material is too expensive. Naturally, then, the cheapening of the raw material will expand the industry, and manufacturers will have good reason to felicitate themselves on such a prospect.

A RUBBER FACTORY THAT KEEPS GROWING.

DULL times elsewhere have not prevented rapid progress on the important additions and improvements at the factory of the National India Rubber Co., of Bristol, R. I. The large building formerly used as a boot-room has been altered for the reception of the machinery recently removed from the Colchester Rubber Co.'s plant, which is to be run by the National company's big engine known as the "Jumbo." For the engine-bed, at the south end of the room, an excavation was made seventeen feet in depth. The foundations for the mills and calenders are unusually substantial. The roof of this structure has been sawed in two and raised for the addition of another story by building up the side walls to the requisite height, while the removal of the end walls of the building provides for a completer connection with the buildings at either end. It is not long since a new three-story building was completed at this factory, and on October 15 work was begun on the foundation for a new brick two-story building, to be over 100 feet in length,

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

AMONG recent patents issued by the United States patent office, embodying applications of India-rubber or Gutta-percha to a greater or less extent, have been the following. It is not practicable here to do more than to note the use of rubber in each case, with sufficient detail to enable those who are interested to decide whether or not to look into any particular patent more fully:

TIRES.

No. 526,572.—Pneumatic Tire. Dell M. Hawes, Ortonville, Minn.

In a pneumatic tire the combination with a jacket consisting of an endless concaved strip made to fit closely to the outer longitudinal half of the tire with an endless wire running longitudinally one or more times around in either edge thereof of an inflatable air tube so constructed that its outer longitudinal half will be thinner and more flexible than the inner half and provided with a shoulder and groove on either side thereof adapted to fit and support the edges of the jacket.

No. 525,709.—Pneumatic Valve Base. John F. Ives, Cleveland, Ohio, assignor to the Mechanical Rubber Company, New York, N. Y.

A valve base composed of a rubber stem and flange with a reinforcing fabric for the stem which extends across the juncture of the stem and flange and reinforces the latter.

No. 525,711.—Process of Manufacturing Casings or Sheaths for Pneumatic Tires. Godfred Knadler, Cleveland, Ohio.

The process of forming and completing at one operation a tire sheath or similar article by laying upon a pulley whose central circumferential diameter is different from the diameter of its edges, layers of plastic rubber and canvas pressing them firmly against the face of the pulley by means of devices which exert pressure in radial directions and while in this condition subjecting them to the process of vulcanization.

No. 526,185.—Pneumatic Tire. Joseph N. Goldbacher, New York, N. Y.

A pneumatic tire consisting of the rim, the inflatable tube thereon, and the shoe applied over the tube and inner side of the rim, combined with the series of transverse clutches at the inner side of the rim and having at their ends hooks to engage the shoe and at a point between their ends the aperture and slot.

DRUGGISTS' SUNDRIES.

No. 525,853.—Stopper for Hot Water Bags. Dennis B. Martin, New Haven, Conn., assignor to the Seamless Rubber Company, same place.

A screw-stopper for water-bags, consisting of a spun sheet-metal body having its inner end closed, and its outer end open, and formed with screw threads, and with an annular recess, located between its screw-threads and its closed inner end a sheet-metal cap applied to the open outer end of the body, a handle secured to the cap, and an annular packing-washer located in the recess of the body.

No. 525,925.—Urinal. August Sahlstrom, Minneapolis, Minn.

A concealed urinal, portable with the person, consisting of a flexible tube depending inside the trousers and provided with a pair of suspending devices attached one above the other, the one below the mouth of the tube for forming a fold to close the tube at its upper end and raising the tube at its lower end, when suspended thereby.

No. 526,353.—Vaginal Syringe. Jesse M. Lamb, Mooreland, and Jonathan C. Hardesty, Millville, Ind.

The combination in a vaginal syringe embracing a main body, a fixed shield on one end of the main body, and a detachable and dilatable elastic reversed shield.

No. 526,501.—Water Bag and Food Warmer. Annie M. Plummer, Glencoe, Ill.

In a combined hot water bag and food warmer, the combination with a main water-tight receptacle for hot water, of a pocket attached to the outside of the receptacle and adapted to receive the food to be warmed.

No. 526,890.—Combined Bottle-Stopper and Syringe. Walter F. Ware, Camden, N. J.

A combined bottle-stopper and syringe, formed of a single piece of soft rubber and comprising a bulb, a conical nozzle, and a neck portion situate between the nozzle and bulb, the neck portion having a tapering exterior and adapted to form a bottle stopper, there being on the periphery of the neck portion a groove extending from a point below the junction of the nozzle with the neck to a point on the neck above the line of junction.

No. 526,932.—Teething-Ring. Martin L. Metzger, New York, N. Y.

A teething ring, the same consisting of a stem bent upon itself to form two opposing and contracting members, a transverse aperture being made at the lower portion of the stem and at the lower portion of the space between the members, annular ribs formed on the opposite end of the stem, a ring passed through the aperture in the stem, and a nipple located on the end having the ribs.

NOTIONS.

No. 526,376.—Dress-Shield. Emma M. Weicker, Berlin, assignor to Wilhelm Plöger, Hanover, Germany.

A dress shield having a spring metal hoop which extends along the saddle of the shield and is attached to the shield fabric, the ends of the hoop projecting beyond the shield and being adapted to detachably enter holding loops on the dress.

STATIONERS' SUNDRIES.

No. 526,428.—Fountain Pen. Paul E. Wirt, Bloomsburg, Pa.

The improved cap for a fountain pen provided with an internal longitudinally extending body of elastic material having its outer side separated from the interior side of the cap and provided with a recess to receive the pen point, the end of the body adapted when the cap is in place to abut against the end of the nozzle.

DENTAL APPLIANCES.

No. 526,432.—Syringe. Comegys C. Lusby and Charles H. Richardson, Philadelphia, Pa., assignor to the S. S. White Dental Manufacturing Company, same place.

A syringe adapted to heat the contents thereof which consists of an elastic bulb partly surrounded by a metallic shield, having a screw fitted delivery tube carrying electric conductors extending within it and terminating near the end thereof in the resistance piece adapted for generating heat, and suitable conducting devices whereby a current may be sent through the resistance piece at will.

MISCELLANEOUS.

No. 526,136.—Foot-Ball. William R. Thomlinson, Glasgow, Scotland.

A cover for balls consisting of a plurality of sections, two of which are each substantially elliptical at each end, with a reduced portion between the elliptical portions, and the remaining sections are substantially elliptical.

No. 526,483.—Art of Treating Plastic Rubber Compounds. Wheeler Cable, Boston, Mass.

The improvement in the art of treating plastic rubber compounds, which consists in spreading such material in a very thin sheet upon a moving surface, inspecting and removing impurities therefrom while so spread and moving, and then thickening the sheet at its forward end and removing the thickened sheet from its carrying surface.

No. 526,534.—Neck-Protector. Henry A. Lahl, Milwaukee, Wis.

A neck protector for barbers' use, comprising a cape of flexible material, having a curved neck opening extending from one

edge inward to its central part, and a layer of soft fibrous material secured to one surface of the cape at and adjacent to the neck opening.

No. 526,546.—Elastic Fabric. Alexander Straus, New York, N. Y.

The method or process herein described of making an elastic fabric which consists in incorporating India-rubber with a woven fabric, then stretching the fabric diagonally in one direction, and then fixing the same in such condition by vulcanizing the India-rubber.

No. 526,631.—Elastic-Tread Horseshoe. Arthur Loeffler, Chicago, Ill.

A horseshoe having at its rear end a pad-receiving cavity formed by the outer walls and the top plate, a pad arranged in the cavity, and attaching prongs arranged in pairs upon the rearwardly extending portions of the plate, midway of the width of such plate and midway of the length of the pad-receiving chamber.

No. 526,671.—Elastic Tread Horseshoe. Lawrence A. Anderson, Cincinnati, Ohio.

In a horseshoe, the flanges and the interspace, open at the ends and receiving the continuous flanged flexible rubber, capable of being drawn at the end.

No. 526,846.—Armor for Pneumatic Tires. Samuel M. Schindel, Hagerstown, Md.

A punctureless armor for the purposes specified, the same consisting of a body of fibrous material, as raw cotton, enclosed within a suitable covering or sheath, and a flexible core embedded within the fibrous material.

THE RUBBER INDUSTRY OF CANADA.

STEADY advancement in the condition of the India-rubber trade of Canada is evident from the statements contained in the yearly government reports on trade and commerce, printed at Ottawa. These reports show (1) an increase year after year in the consumption of raw material; (2) a decrease in the imports of rubber goods, though it cannot be supposed that the use of such goods is on the decline; and (3) an increase in the exports of rubber goods of Canada, the latter item of trade being small, as yet, however. In the first table is given a column showing the imports (in pounds) of India-rubber and Gutta-percha combined for each of several years, and in a second column the amount of recovered rubber and rubber substitute combined. The customs authorities do not make any further distinctions in classifying imports, including hard rubber with "crude." The table follows:

YEARS.	India-rubber and Gutta-Percha.	Recovered rubber and substitute.
In 1885-86	739,169	19,499
In 1886-87	785,040	46,508
In 1887-88	1,225,893	88,471
In 1888-89	1,669,014	221,674
In 1890-91	1,602,644	8,254
In 1891-92	2,100,358	106,080
In 1892-93	2,152,855	195,281
In 1893-94	2,077,703	529,900

[The fiscal year runs from July 1 to June 30.]

If the total of crude and recovered rubber be compared for the first and last years embraced in the table, it will be seen that the consumption of raw material has increased more than threefold in eight years, which is a decidedly high rate of progress.

Of the crude gums imported in 1892-93 the United States supplied all but 1228 pounds. Of the recovered rubber and substitute, France supplied in the same year 11,842 pounds, and the United States the remainder. The declared value of the imports of recovered rubber and substitute gives an average per pound of 14.6 cents.

The consumption for 1892-93 of crude gum and of the recovered and substitute rubbers, by provinces, is shown below, the figures as before indicating weight in pounds:

PROVINCES.	Crude Gums.	Recovered, etc.
Ontario	323,774	58,351
Quebec	1,828,991	136,930
New Brunswick	30	.....
Manitoba	7	.....
British Columbia	53	.....
Total	2,152,855	195,281

Not only is the raw material above enumerated free of duty in Canada, but rubber-manufacturers are favored by the exemption from duties of some other materials needed in their industry. Thus duck for belting and hose are free when imported by manufacturers of rubber goods for use in their own factories. Of such goods Ontario imported in 1892-93 $20,991 worth and Quebec $48,831 worth, all from the United States. Elastic threads are also free when imported by manufacturers of elastic webbing for their own use. Of goods under this heading Ontario in 1892-93 imported $14,704 worth from the United States. Sulphur is on the general free list and so are litharge, whiting and Paris white. Other free raw materials which may be mentionedhere are chicle, when used for manufacturing purposes; rubber heads for whips; and fillets of cotton and rubber imported by manufacturers of cotton clothing for their own use.

Rubber goods were imported by Canada in 1886 to the value of $723,685; in 1889, of $843,692; in 1891, of $806,207; in 1892, $656,921; and in 1893, of $696,020. In the latter year the origin and classification of such imports were as shown in this table:

CLASSIFICATION.	From United States.	From Other Countries.
Boots and Shoes	$166,383	$ 1,018
Belting	13,235	32
Clothing	17,114	283,180
Hose	22,914	1,278
Packing and mats	9,406	2,849
Sheeting	55	47
All other	118,792	59,717
Total	$347,899	$348,121

["Other Countries" applies chiefly to Great Britain.]

Exports of rubber goods of Canadian manufacture increased in value from $4206, in 1886, to $22,744 in 1893. Of the latter amount $12,840 went to the United States and $3023, the next largest customer being Newfoundland.

The amount of the imports of rubber for 1893-94 has been obtained from Ottawa in advance of publication, through the courtesy of the controller of customs, so that the figures first appear in THE INDIA RUBBER WORLD.

A CARRIAGE FIRM'S USES OF RUBBER.

WE have received from the carriage-building firm of Offord & Sons, Limited, 67 George street, Portman square, London, circulars descriptive of several applications of rubber in their works. First in importance are rubber tires, "which are fast becoming not only a luxury for the invalid, but a necessity for every private carriage." The firm offer to fit these tires to any carriage, and to keep them in repair for a fixed annual charge if desired. Their published prices, by the way, have undergone a marked reduction within a year.

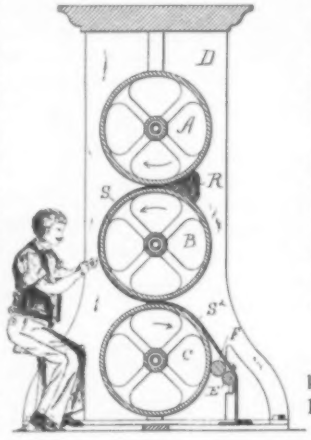
They also make rubber brake-skids, an advantage claimed for which is that the rubber, pressing on any tire, prevents harm to the springs and the jarring of the vehicle caused by forcing a hard substance suddenly on the tire. Their rubber carriage-steps are covered by a patent relating to the manner in which the rubber is made to adhere to the iron plates. Horse-shoe pads of rubber, to prevent slipping and for the relief of tender feet, complete the list.

THE CABLE PROCESS FOR TREATING COMPOUNDED RUBBER.

LARGE quantities of compounded rubber containing "reclaimed" stock, or ingredients that may have foreign materials in them, are annually used. The Cable process, appreciating this, forms a new method of quick and thorough refining which effectually removes such materials. It is the invention of Mr. Wheeler Cable, a well known rubber manufacturer, and the President of the Cable Rubber Co. For some months past he has tried the process in his factory and has found it a wonderful saving both in labor and material, and a preventive of damaged goods. Describing his invention as applied to reclaimed rubber, the inventor says:

Vast quantities of this stock are annually used, and for many purposes it is scarcely inferior in serviceability to fresh gum, while its cost is but a small fraction of that of new rubber. Great care in treating it is, however, necessary, especially where it is to be subsequently spread thin to serve as a coating for woven or other fabrics, which are to be thereby rendered water-proof. For this purpose it has long been common to treat the compound in a calender, between the upper and middle rolls of which it passes in a very thin sheet, so that the workman, scanning this sheet with quick, practised eye, may remove, while it is passing downwardly on the middle roller any considerable particles of foreign matter. To remove these impurities it is absolutely essential that the plast c sheet shall be so thin that they are visible in it and may be picked out as the material passes. For practical success this should be done, without stopping the machine unnecessarily. Right here a difficulty hitherto insurmountable has arisen. The middle calender roll soon becomes materially heated, and the plastic sheet, having a thickness not much exceeding the hundredth part of an inch, clings to the roller surface, tending to follow it upwardly and again pass between the upper and middle rollers, thus clogging the machine or making it inoperative until stopped, and the roller cooled. This is because there is not sufficient tenacity in the thin sheet of this reclaimed rubber to pull it away from the roller; but if the sheet passes before the workman's eye with sufficient thickness to insure its removal freely from the roller he cannot see the most of the impurities, and hence the stock will be of inferior quality and the coating subsequently applied to the fabric will be full of minute holes. My improved method solves this difficulty in a very simple manner, yet one that has hitherto eluded the thoughts of skilled workmen notwithstanding the urgent need of relief for many years. Instead of thickening the sheet where it passes for inspection before the workmen's eyes, or attempting to remove it while so very thin, I double its thickness automatically after it has been inspected. To do this practically and conveniently I gear the lower roller to run at about half the surface speed of the middle one, with which it is in close proximity, thereby causing the sheet to be transferred from the roller on which it was inspected to the surface of the lower roller and to be simultaneously about doubled in thickness owing to such reduction in speed and to the increased distance between the lower rollers. This increase in thickness gives to the sheet sufficient body and cohesiveness to insure its ready separation from the roller surface. For this purpose I provide a small delivery roller in rear of the lower calender roller, and belted to it or otherwise driven at somewhat higher speed so as to pull the sheet away from the calender. From this small roller the rubber sheet, inspected on the middle calender roller and subsequently thickened, is delivered continuously without the slightest recurrence of the former difficulty.

In the drawing A, B, C are the three cylindrical steel rollers, mounted in the usual bearings in the upright standard D of the frame,—the middle roller B being in fixed bearings and the rollers A and C capable of accurate adjustment toward and from it.



The plastic mass of rubber R under treatment is shown in the bight of the rollers A, B, which are geared to turn with equal speed or the middle roller at a higher speed than the upper roller A. They are set very closely together, leaving only space for a sheet S about the hundredth part of an inch in thickness spread uniformly over a portion of the surface of the roller B and passing slowly downwardly before the watchful eyes of the workman, who is thus enabled to detect any considerable impurities therein, and remove them by a quick movement of the hand.

The rollers B and C are set about twice as far apart as the rollers A and B, and are geared together, the gear wheel on the lower roller having about twice as many teeth as that on the middle roller so that the one shall revolve with about half the surface speed of the other. This difference in speed causes the rubber sheet S^2 to part from the middle roller and move downwardly on the opposite side of the slower roller C. Simultaneously with and in consequence of this change of speed the soft rubber sheet substantially doubles in thickness, the two rollers being far enough asunder to insure this.

Back of the lower roller C is the small delivery roller E in suitable bearings, revolving at a surface speed sufficiently faster than the roller C to overcome the stretch of the sheet, and to pull it free. This is done by belting it to roller C or by an interposed friction wheel F of proper diameter. This simple attachment pulls the thickened sheet S^2 continuously from the roller C and deposits it on the platform, or otherwise, in layers forming a plastic mass for subsequent treatment.

Under this improvement, with less manual labor than has heretofore been required, one can turn out daily, without any trouble, twice as much of the finished product as was practicable under the old system, with its waste of time and constant annoyance. The value of this improvement, as applied simply to the treatment of the millions of pounds of old rubber annually reclaimed, will be apparent.

THE Marlboro (Mass.) Rubber Co. intend to keep their bicycle and rubber goods store at Bar Harbor open at least during most of the winter.

INDIA-RUBBER AS "A FAIRY GODMOTHER."

UNDER the heading of "The Cinderella of Civilization," Mr. Grant Allen writes entertainingly, in *Longman's Magazine* (London) for September, of the great service to man of India-rubber, with which he includes Gutta-percha. While proving the practical indispensability of India-rubber to modern civilization, he points out that it yet "remains for the most part a mere anciliary substance. We make very few things indeed entirely out of rubber, and those that we do make are mostly unimportant—dolls, toys, and tubing." Yet nothing seems to be made without some use of rubber. "Keep an eye on it for a day," Mr. Allen writes, "and you will be fairly surprised how from everything you turn to it stares at you imperturbably. You can't get away from it." He gives examples of the many things in common use that would be incomplete—impracticable, even—without an elastic factor. "Here, however, our Cinderella of Civilization steps in as the fairy godmother," and supplies the missing something. Now the reader sees why the writer calls India-rubber the Cinderella of Civilization. "It lurks, as it were in the back kitchen of invention, and is never in evidence; but it does most of the hard work, all the same, and is worthy the diligent quest of the Prince, who detects it at last by the aid of its goloshes."

THE RUBBER PRODUCTION OF WEST AFRICA.*

TWO kinds of India-rubber are exported from the west coast of Africa, according to G. F. Scott Elliott, who has prepared a report upon the botany of Sierra Leone, referring especially to the district traversed by the late Anglo French boundary commission. The rubber production of the peninsula of Sierra Leone is small, compared with that of some of the neighboring colonies, though the shipments from Free Town, the capital of the colony, are considerable. The fact that this is the most important seaport of West Africa, and that its population of 30,000 is largely supported by trade, accounts for the accumulation here of rubber from various other points along the coast to be forwarded to Europe. Free Town, by the way, is destined for still greater importance as the development of the interior progresses, its harbor commanding the most direct approach from the west coast to the great African plateau. A large scope of country lying back of Sierra Leone proper, now controlled by petty tribes who are constantly at war, must inevitably come under British control, to be followed by the encouragement of industry and commerce. Mr. Elliott is convinced of the great wealth in rubber-bearing plants of this back country, and herein lies the chief interest of his report, aside from the pains he has taken to point out the varieties of plants which yield rubber on the west coast.

The rubber of this section is derived chiefly from the so-called rubber-vines, or climbers, of which the genus *Landolphia* embraces the most important species. The other kind mentioned by Mr. Elliott is collected from trees, including the *Ficus Vogellii*† and possibly other species of fig. At one time the timber trade formed the most important interest in Sierra Leone, which led to the wide destruction of forests, besides which other sections have been cleared for cultivation. This naturally has narrowed the range of the rubber-vines, which flourish best in old forests, and with the increase of population and the further felling of the forests the rubber creepers will disappear in the valleys. The most important creepers in the district reported upon by Mr. Elliott are known to the natives as "oro," "djengé" and "furé," the first of which he identified as the *Landolphia Owariensis*, while the others may or may not prove to be of the same species.

The *Landolphia florida*, known to the natives as "mbungo," and a species of *Carpodinus*, which they call "genyé," will probably survive longer, since they are found farther up the hillsides, where the timber is less desirable for export and the land is not so well fitted for cultivation. Mr. Elliott learned that the yield from these two species was neither so good nor so abundant as from the kinds first named, though he inclines to the belief that improvement would follow better means of extraction. The collection of rubber from the vines is very simple. "An incision is made in the climber, and a lime is used to coagulate the rubber as it flows out, and the native with this in his hand works the milk into balls (about the size of a cricket ball) in which it is carried down to the coast for sale." The natives are suspected of destroying most of the vines that they tap for rubber.

Mr. Elliott collected thirty-nine species of *Ficus*, one of which, besides the *Vogelii*, he found to yield rubber. Possibly others will also. The *Vogelii* is called by the natives "abba" and "akbaha," and yields a good quality of timber. The preparation of *Ficus* rubber has been thus described in the *Kew Bulletin*: "The milk was strained through muslin and left standing for twenty-four hours. It was then boiled with water and lime juice in the proportion of one lime to each quart bottle of milk. The rubber was then placed in perforated tin boxes and heavy weights laid upon it, so that the water was pressed out through the holes in the tin." Alvan Millson described a cultivated *Ficus* tree in this colony, fifty feet high at the age of thirteen years, which he estimated would yield four or five pounds of rubber every second year.

Other rubber-yielding plants in Sierra Leone mentioned by Mr. Elliott are: *Landolphia Heudelotii*, called by the natives "aba"; *Daniella thurifera*, which they call "santang;" and *Tabernæmontana crassa*, known as "hpo-kapoka."

Rubber exports from Sierra Leone amounted in 1880 to 829,636 pounds; in 1881, to 966,594 pounds; and in 1882 to 1,388,150. From another source values of such exports are obtained, as follows: average from 1877 to 1881, inclusive, $208,895; in 1882, $483,370; in 1883, $448,910; and in 1884, $254,470.

* * *

SIERRA LEONE is separated from the republic of Liberia, which lies next to it on the coast, descending toward the equator, by the river Manoh. Below Liberia lie several more British colonies, including Gold Coast, the source of "Accra" rubber. As illustrating the vast extent of the African territory in which India-rubber is found, it may be mentioned that a single English company has obtained a concession to gather rubber between the river Manoh and the Sulima—120 miles farther up the coast—over an area extending far enough inland to cover 25,000,000 acres. It would seem that rubber territory exceeds the demand if sole license for so great an area can be had practically for the asking. The concessionaries referred to, The India Rubber and Contract Co., Limited, are organized to extend the business carried on for twenty years past by C. W. Meiter & Co., as importers of India-rubber and Gutta-percha, and as general merchants and contractors, Nos. 85–87 Gracechurch street, London. This firm obtained a concession of rubber lands dating from March 11, 1890, and established trading-posts. The object of the new corporation is to combine with their business that of C. Woerman, of Hamburg, and A. Woerman, of Liberia, who

* This article does not embrace the important output of Gold Coast, which was referred to at length in this journal last month.

† This is the same tree described by some botanists as the *Urostigma Vogelii*.

have long been in the African rubber and general coast trade, with their own line of steamers. There are included additional concessions or privileges, dating from January 1, 1894, including mineral and timber rights, and freedom from export or import duties. The authorized capital of the company is $500,000. One of the parties interested is the Hon. C. T. O. King, a native of West Africa, who is the Grand Master of Liberia and who, on a recent visit to England to assist in forming the syndicate, was honored there by the Masonic fraternity.

* * *

GAMBIA, which lies on the coast below Liberia, falls far short of the neighboring colony of Gold Coast in the production of rubber, while Lagos is the smallest producer of rubber among the English possessions on the coast. The first recorded exports of rubber from Gambia were for 1883, when they reached the value of $30,240. In the next year they amounted to 257,285 pounds, for which the value reported was $116,065. The British consul at the time reported that the market had been forced, the prices paid by shippers having been so high as to result in loss in the European markets. There was a marked falling off for awhile, but in 1891 the exports reached 246,690 pounds. The total value of Gambia rubber exports for the years 1883 91, inclusive, was $442,475.

In a report on the resources of Lagos, Alvan Millson, above referred to, mentioned the discovery of a swamp fig locally called "boucau," which he had found would yield rubber quite equal to the scarcer "abba" tree. Mr. Millson, who held a government appointment, manifested great interest in developing the rubber industry. He personally taught (in 1888) the natives to gather rubber from the "abba" tree, and published articles on the subject in the *Government Gazette*. Through his influence a market for native produce was established at Badagny, and an English firm opened a branch there to become interested in the collection of rubber, but no further facts have been obtained.

* * *

KONGO FREE STATE showed last year a marked increase in the exports of India rubber. This is now the third in importance among the articles of export from that country. Official figures have been kept of the rubber exports since July 1, 1886, as follows :

	Pounds.		Pounds.
In 1886 (6 months)	40,752	In 1890	272,065
In 1887	67,100	In 1891	179,696
In 1888	163,447	In 1892	343,946
In 1889	288,448	In 1893	531,646

The aggregate of these shipments reached 1,887,100 pounds, and the value declared by the exporters was equivalent to $623,363 in United States money. This would give an average value of 33 cents per pound. Half of the India-rubber product is purchased by Holland.

But these figures do not cover the whole output of the Kongo valley. The exports from Boma and Banana include also the products of certain neighboring Portuguese and French possessions, which add considerably to the showing for rubber. In 1892 the total for the Kongo valley, with these additions, was as follows :

	Pounds.
Kongo Free State, as above	343,946
Portuguese possessions on the left bank	463,969
Portuguese seaboard	195,844
French seaboard territories	9,119
Total	1,012,878

"The India-rubber plant is found in all parts of the independent state of the Kongo," says a recent British foreign-office report, "but at present the gum is collected chiefly in the basins of the Ubangi-Velle, Mongalli, and Kassai rivers." Natives gathering rubber on the public lands of the state are required to give up one-eighth of their crop as a tax. This may be commuted (in the case of European traders) for a payment of 5 cents per kilogram. An export duty of 8 cents per kilogram is all charged, making a total charge upon rubber by the state of 5.9 cents per pound.

* * *

THE Portuguese province of Angola, south of the river Kongo, is of great and growing importance in the production of rubber. The facts may best be shown by a table showing the exports for several years from the different districts, the names of which, by the way, will suggest to buyers of rubber the grades of gum exported. The figures relate to pounds :

DISTRICTS.	1888.	1889.	1890.	1891.
St. Paul de Loanda	623,469	1,340,739	900,684	1,376,910
Benguella	2,313,956	2,441,817	2,098,422	2,663,729
Mossamedes	1,239	185	323	66
Ambriz	28,417	17,769	44,638	42,359
Total	2,967,081	3,800,510	3,044,067	4,083,064

Of the total amount represented in this table, 95½ per cent. was shipped to Portugal, the export duties on Angola produce being designed to favor shipments to the parent country. The next largest amount was taken by Holland. M. Edmond Chapel's "Le Caoutchouc et la Gutta percha" quotes authorities to show that the greater part of the Angola rubber product is from the *Landolphia florida* vines. Messrs. Capello and Ivens, officers of the royal Portuguese navy, who penetrated this territory for 300 miles or more from the coast, met caravans of black men carrying "head loads" of rubber of 4 arrobas (=128 pounds), from points still farther in the interior. At Cassange, a noted fair town, they estimated the value of rubber at 10¾*d.* per pound, while, with carriage to the coast added, it would be worth 1*s.* 3*d* per pound.

THE item of cost would hardly figure in a decision with regard to equipping the royal carriages in Russia with pneumatic tires, judging from the statement that some of them have interior fittings richly studded with diamonds.

RUBBER-STAMP signatures are not legal, according to Justice Gaynor, of Brooklyn, who recently released from confinement a prisoner whose commitment had been signed by the judge of a lower court with a rubber stamp instead of a pen. It is not many years since an official of the school department in the same city signed all the checks for teachers' salaries one month with a rubber *fac-simile* of his name—work which had to be done over with a pen when the banks were heard from.

THE GOODYEAR RUBBER CO. GOING UP BROADWAY.

THE uptown movement of trade in New York city has been gaged for nearly a half-century by the progress northward on Broadway of the Goodyear Rubber Co., who are about to take another step to keep pace with the continued tendency in this direction. They will on February 1 leave their present store at No. 487 Broadway and take possession of the much larger premises, Nos. 787-789 Broadway, at the northwest Tenth-street corner. Here will be a salesroom 168×53 feet, besides an L 53×32 feet, extending to the St. Denis Hotel, and a well-lighted basement beneath the whole. The floor area of the salesroom will be 10,828 square feet. It being unusual in New York for a business establishment to exist so long under one management, without change of character or policy—while keeping alive to progress in business methods and changes in the buying demand—some details in the history of the Goodyear Rubber Co. deserve mention at this time.

The business was begun in 1848 under the name of the Union India Rubber Co., at No. 19 Nassau street, below Cedar—a site now covered by the Equitable building. This was the center of the retail trade in New York at the time,* and the new rubber store had a particular advantage in being next door to Gosling's fashionable restaurant. The factories of the company were in Harlem and at Naugatuck, Conn., licensed under Charles Goodyear's patents, which had just given such an impulse to the production of rubber goods. Though the business in time came to be conducted under other names,—since 1872 as the Goodyear Rubber Co.,—there has been no change in proprietorship, and the original corporation of the Union India Rubber Co. still exists, with headquarters at No. 487 Broadway. The outbreak of the California gold-fever gave the company a good trade at the very beginning in "outfitting" pioneers bound for the Pacific coast. The first president was Jonathan Trotter, who was also the first mayor of Brooklyn; the secretary was F. W. G. Bellows, a brother of the Rev. Dr. Henry W. Bellows; and the treasurer was Nicholas Williamson. In January, 1853, the offices of secretary and treasurer were combined in Frederick M. Shepard, now president of the Goodyear Rubber Co. and the Union India Rubber Co., and in whose long connection with the business its continuity is best represented.

The coming removal will be the ninth since 1848. In each case of going farther uptown the company felt that the best possible choice of a location had been made, and that all the conditions of trade promised permanency for it. A list of these locations and the dates of their occupancy makes a fair barometer of the rate of progress of the general movement of business uptown. One or two changes, by the way, were due only to real estate transactions. Here is the list:

1848.—No. 19 Nassau.
1854.—No. 41 John (supposed then to be quite "up-town").
1857.—No. 201 Broadway—near Fulton (an advanced step northward. The business here took the name of the Rubber Clothing Co.)
1861.—No. 345 Broadway—one door below Leonard.
1862.—No. 347 Broadway—at Leonard. (This store and the preceding were in the building once famous as the St. Charles Hotel.)
1867.—Nos. 361-363 Broadway—at Franklin (former residence of Eli White, the wealthy dealer in hatters' materials).
1869.—Nos. 365-367 Broadway (in the Taylor's International Hotel building).
1872.—No. 341 Broadway. (The name Goodyear Rubber Co. was adopted this year.)
1880.—No. 487 Broadway—at Broome.
1895.—Nos. 787-789 Broadway (the once noted mansion of the late Pierre Lorillard, Sr.)

As in more than one previous case, the immediate cause of the present removal is the intention of the owners of the store now occupied to tear it down. It belonged for many years and until recently to Frederick Koenig, of the firm of Poppenhusen & Koenig, and long president of the India Rubber Comb Co., who retired from business upon becoming wealthy and returned to his native land, Germany. It is to be replaced with a tall office-building, designed for the needs of representatives of the silk trade, now showing a tendency to center in that part of the city. The choice of a new location has been influenced by the fact that retail buyers no longer go down Broadway as far as formerly, while the hotels patronized by out of-town buyers are now farther up. Yet the trade of this particular company might not be best served by going north of Fourteenth street at this time. The consideration in favor of Tenth street is that three great retail dry-goods houses are established in its vicinity on a solid basis, making of this a notable retail-trade center. One of these is that founded by A. T. Stewart, which has lately gone back to the original idea of its founder in closing its wholesale department and making increased efforts to attract retail buyers.

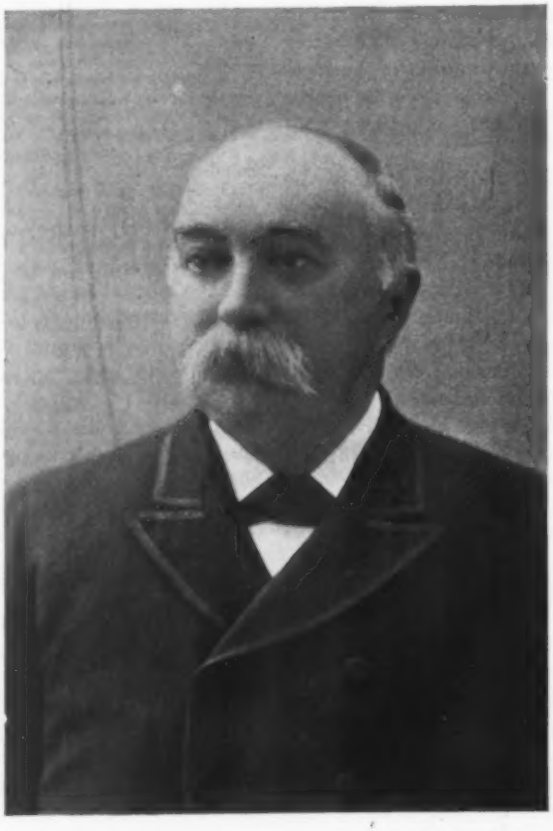
While continually moving to meet the demands of the trade in New York the Goodyear Rubber Co. have found opportunities to extend widely the sale of their goods elsewhere. They have opened stores successively at Buffalo, N. Y., St. Louis, Chicago, Kansas City, Milwaukee, Minneapolis, St. Paul, San Francisco, Washington city, and Portland, Ore. Besides their own factory at Middletown, Conn., they have an important interest in the National India Rubber Co., and have some of their goods manufactured also at Lambertville, N. J. The factory in Harlem was

* The rubber trade in New York city at that time was located about as follows: Daniel Hodgman, who was manufacturing door-springs under a license from Goodyear, had a general rubber store at the northwest corner of Nassau street and Maiden lane. The New Brunswick Rubber Co. had a rubber-shoe store opposite, on the northeast corner. The Newark India Rubber Manufacturing Co., manufacturers of shoes, to whose business the Goodyear Rubber Co. afterward succeeded, were at No. 59 Maiden lane. B. F. Breeden & Bro., agents for the Ford (now Meyer) Rubber Co., were on Cliff street, between John and Fulton, their store running through to Pearl. The store of the Candee Rubber Co. was on the east side of Pearl, between John and Fulton. The agency of the Hayward Rubber Co. was on the west side of Pearl near Fulton. Horace H. Day,—a famous name in the rubber business in his time,—was located at No. 31 Cortlandt Street. He was licensed by Goodyear to manufacture shirred goods. The Goodyear India Rubber Glove Manufacturing Co. were on John street, nearly opposite No. 41. The New England Car-Spring Co., whose factories were up on Second avenue, had an office on Broadway, near Wall street. The New York Belting and Packing Co., organized a little later, began in Dey street, on a site now covered by the Western Union Telegraph Co.'s building.

operated until within the past five or six years. Though the history of this company is one of successful enterprise, their methods may properly be described as conservative, a fact due in part to the absence of change for a long period in the management. The secretary, J. A. Minott, has been connected with the company since 1857, and the manager, James Kipp, since 1867, making a combined length of service of the three principal officers of 108 years.

WHEELER CABLE.

MR. WHEELER CABLE, the subject of this sketch, was born in the small town of Warren, Litchfield county, Connecticut. Such educational privileges as the town afforded, were to be found in the old-fashioned district school. This he attended until his parents moved to Newtown, which place was to witness his apprenticeship in the rubber business. It was in 1850 that he left school, and securing a place in the factory owned by John W. Graechen & Co. (now the property of the New York Belting & Packing Co.), was set at work cleaning out molds in which rubber doll heads were made.



At the beginning he received no wages at all, but worked for his board. His employers were more than satisfied, however, for he was soon put upon general work about the factory, and at the age of sixteen was a ful fledged "calender man" and in charge of a three roll calender. From 1850 to 1865 young Cable worked at everything that was done in that factory, and laid the foundation for a practical insight into rubber manufacturing that proved in later years to be of the greatest value to him.

On the 15th of July, 1865, he was engaged by the National India Rubber Co. at Bristol, R. I., under a five years' contract. Here he had an opportunity to still further increase his experience, for at this great plant all kinds of rubber goods including boots and shoes, clothing, mechanical goods, sundries, in fact everything but hard rubber, were turned out in vast quantities. At the expiration of his contract he was sought by the firm of Clapp, Evans & Co., and became the superintendent of their factories known as the Ætna Rubber Mills, located at Jamaica Plain, Mass. The goods manufactured by this firm were rubber boots, clothing, and general mold work. In 1881 Mr. Cable gave up his position at the Ætna, built a factory in Jamaica Plain, and formed the Cable Rubber Co. which was incorporated under the laws of Massachusetts the year following. The special lines that the new company manufactured, and upon which they have built a most enviable reputation, were high grade rubber clothing and carriage cloth. Mr. Cable has been not only the practical man at the factory, but has had the general management of the business from its inception. He has always been a hard worker, and has made it an article of his faith to maintain the quality of his goods. He was one of five who suggested the organization of the Rubber Manufacturers' Mutual Insurance Co. which was formed some nine years ago, which has been singularly successful, and in the directory of which he has served continuously from the start. Mr. Cable is by nature a conservative, yet he has ever kept in touch with the advances made in the rubber business, and so far from being wedded to the old methods, has brought out numbers of inventions that have had wide recognition. He has two sons, William J., who is the secretary of the company, and Samuel H., who is engaged at the factory in Jamaica Plain. Few men in the rubber trade have seen more years of continuous and successful service, or are more widely known than Wheeler Cable. As a matter of course he has hosts of friends in the trade as he as genial as he is practical. And beyond all he is an enthusiastic and lucky fisherman, than which nothing better can be said of any man.

THE town of Hudson, Mass., has been cheered lately by the activity of the factory of the Apsley Rubber Co. All the employés have been called in and an excellent prospect for work is reported.

INDIA-RUBBER IN THE STABLE.

NOWHERE else has there been a more rapid increase in the applications of India-rubber than in the stable. This substance having been found capable of contributing in so many ways to the comfort of man, it was only natural that its use should next extend to so noble and useful a friend to man as the horse. The items for stable use put on the market by a single rubber-manufacturer make an extensive list, though it does not cover the whole line of trade in rubber for the stable. Rubber hose, inflated rubber cushions, tubs and pails, rubber bandages, coverings for carriages, horse-blankets, bottles for giving medicine, inflated shoes, washers, and straps are among the articles described in the catalogue of the firm referred to.

THE GROWING USE OF RUBBER FOR TIRES.

WHEN asked in what direction the most important increase in the consumption of India-rubber in the near future should be looked for, a gentleman intimately connected with the crude-gum trade promptly answered :

"In the tire business. Bicycles alone add greatly to the demand for rubber, and their use is bound to increase steadily and permanently. Everybody rides bicycles now ; they are as popular with women as with men. Bicycles have come to stay, and the fact that 'they don't eat their heads off' when idle is not the least thing in their favor."

But the bicycle trade does not afford the only demand for India rubber tires. It would take all of any man's time to keep pace with the trotting records and speed contests in America alone, in every one of which the pneumatic-tired sulky figures. Every American farm-boy with a horse that isn't a plug is as anxious for a "bicycle sulky" as any of his city cousins, without a horse, is for a "pneumatic safety."

Nor does the demand for rubber tires stop here. The inventor of the pneumatic sulky-wheel, Mr. Sterling Elliott, addressed the twenty-second annual convention of the Carriage-Builders' National Association, at Philadelphia last month, on "Ball-Bearing Axles and Rubber Tires as Applied to Vehicles." The big carriage-manufacturers there listened with undoubted interest as Mr. Elliott warned them to be ready for the inevitable demand for pneumatic-tired pleasure vehicles. But he went farther, and made the prediction that before many years air-tires would be used on express wagons and other trade vehicles, for tests had proved that on a reasonably good road one horse hitched to a pneumatic-tired wagon could pull a heavier load than two horses hitched to a steel-tired wagon. Of course without good roads no pneumatic tire will be successful on any wheel, but good wheels are in prospect in every part of the country able to pay for them. These same carriage-manufacturers devoted a large part of their time while at Philadelphia to the good-roads movement, as one important to the vehicle trade in general. It may or may not have occurred to them that every additional mile of good roads will only be paving the way that much further for rubber tires.

It is worth mentioning that the association elected as its president for the ensuing year Mr. Channing N. Britton, of New York, who is the most prominent man in building rubber-tired carriages in this country, and who was interviewed on this subject last month for THE INDIA RUBBER WORLD. In connection with the convention was held an exhibition of features in carriage manufacture, in which nothing else attracted so much attention as the ball-bearing axles and the rubber tires for carriages. Among the tire exhibits were those of the Boston Rubber Co., the American Dunlop Tire Co., and the Rubber Tire Wheel Co. (Springfield, Ohio).

The extent of the carriage industry in America is shown by some figures collected for the census of 1890 but first made public at the Philadelphia convention. More than 4500 carriage-factories in 1890 gave employment to $93,000,000 of capital and 62,500 men, and reported a product worth $102,000,000. This industry will afford a bigger field for the rubber-man to work in than the bicycle trade when the rubber tire gets a good start.

The Institute of British Carriage Manufacturers also held their annual convention lately. In his opening address the president, Mr. Percy Preston, urged all the manufacturers who had not already tried India-rubber tires to do so. They rendered the carriage noiseless, added to the comfort of driving, and made the vehicle last longer. He had not yet had any orders for pneumatic tires, but predicted a great future for this style. But he hoped that the coming "pneumatic" would not be as clumsy as one he had seen at the Antwerp exhibition. An important feature of the convention was a paper on "The Application of Pneumatic Tires to General Road Conveyances," by Mr. Arthur du Cros, so well-known in the bicycle-tire trade. There was a lengthy discussion, during which Mr. H. H. Mulliner, of Birmingham, said that though he had fitted forty or more carriages with pneumatic tires, no complaint had reached him in any case. He had driven a dog-cart fitted with "pneumatics" for five months past, without a puncture and without once having to "blow up" the tires. In the discussion the cost of a set of pneumatic carriage-tires was mentioned as £30 (=$150).

H. R. H. The Prince of Wales, it is reported, has had a new brougham built and fitted with pneumatic tires of the "Dunlop" pattern. The carriage was recently on view at the establishment of Mulliner, who is mentioned above. The same report says that four of Sir Walter Gilbey's carriages have been fitted with these tires, and that the Lord Lieutenant of Ireland drives daily in a carriage fitted with 2½ inch tires. The comment of *The Cyclist* (Coventry) is: "So begins a great trade."

THE REGISTRATION OF TRADE-MARKS.

IT is an easy matter to get a trade-mark registered at the United States patent office. The principle is recognized there that, in case of any doubt whether an applicant is entitled to register a trade-mark, the benefit of the doubt should accrue to him rather than otherwise. Of course registration of a trade-mark is a mere record, with the object of giving the registrant a status before the courts for the determination or defense of his rights should they be questioned. The law in relation to trade-marks confers or grants no new rights ; the right is

inherent for a manufacturer to mark his goods as he pleases, so long as he does not imitate the mark by which a competitor's goods have become known in the market. We have in the act of Congress of 1881, therefore, only regulations for the better protection of citizens in a natural right.

Applications to have trade-marks registered may prove unsuccessful, however, even when the forms of law have been complied with. The recent failure of certain rubber-manufacturers in this regard suggests the propriety of giving here some points based upon decisions growing out of trade-mark cases, and by which the practice of the patent office is guided.

First, the "essential feature" of a trade-mark is, according to the decisions, not merely that which the manufacturer may choose to designate as such, "but that which would strike the public mind as its most salient feature, and as lending character to the whole mark." Refusal to register a trade-mark is due sometimes to a violation of this rule.

Again, there are some things which cannot be registered as trade-marks or parts thereof in any case, including the United States coat of arms and any likeness of money or public bonds. Nor will any imitation in general of another trade-mark be permitted, even if some of the features are wholly dissimilar. Registration was refused to a trade-mark for soaps representing a certain plant under the word "Yucca," because a trade-mark for soaps previously registered represented the same plant, described in the application as a "Spanish bayonet plant." It was decided that both names belonged to the same plant, that the distinguishing feature of each trade-mark was this plant, and the use of the two marks would be confusing to buyers of soaps. So a diagonal red label for beer in bottles was refused registration because another bottler was using a registered diagonal red label, but lettered differently. Throughout these decisions the purpose is kept in view of guarding the public, when "using ordinary caution," from being deceived.

The ground upon which the largest number of refusals are based, perhaps, is that the trade-marks embrace such words descriptive of the merchandise to be marked that, should the trade-mark be registered, it would be an infringement for another manufacturer to advertise goods of the same general description. Examples from the patent-office decisions are "indurated fiber," "headache capsules," and "cramp cure." But any word or words may be admitted in a trade-mark in a fanciful and arbitrary sense, as where "silk" was adopted as a label for soap, and "Berlin" to designate a certain kind of cotton goods, having no connection, real or purported, with the city of Berlin.

It may be assumed from the above considerations that "rubber hose" would not be admissible as the essential feature of any trade-mark, as that would deprive all but one manufacturer of the right to describe their product as "rubber hose." Nor would "Boston" be admissible in a trade-mark for articles manufactured in the city of Boston, if produced or likely to be produced there by more than one firm. Nor yet would "Pará" be admissible as the chief feature in a trade-mark for goods made of Pará gum, since this would interfere with the advertising of Pará-gum goods by others in the trade. The word "Macintosh" in a trade-mark for rubber goods would be objected to because it might give buyers the false impression that goods so marked came from the factory of the Macintoshes. On the other hand, the name of a town or city having but one important rubber factory—as Roxbury, Malden, or Woonsocket—might properly be used to designate the products of the factory. And it might not be a bad idea for a manufacturer to look up some remote rubber station or river with a striking name, advertise the excellence of its gum, and use the name of the place as a trade-mark for his goods. This would hardly be objected to at the patent office if only one firm were receiving rubber from the station specified.

Finally, with respect to the policy of the patent office, we may quote from the work by Mr. George H. Knight: "The law does not visit with its reprobation a fair competition in trade; its tendency is rather to discourage monopolies, except where protected by statute, and to build up new enterprises from which the public is likely to derive a benefit. It is only when such competition is based apon fraud that the law will interfere."

GLIMPSES OF THE BOLIVIAN RUBBER COUNTRY.

By M. F. Sesselberg.

A RIVER voyage from Amazonas to Bolivia can scarcely be exceeded in interest and excitement by anything else in the way of travel. This is true especially of the ascent of that part of the river Madeira in which the rapids occur. From the first cataract, at San Antonio, on the Madeira, to the mouth of the Beni, in Bolivia, is only 230 miles; yet often a month is consumed in making the ascent. To come down the river requires but a few days at certain seasons. There are nineteen waterfalls to be passed, besides numerous rapids, and many may be the mishaps—to say nothing of the danger of encountering cannibal Indians—that await the unsuspecting traveler. In the first place, passage from San Antonio to Bolivia is not always easily obtainable. Then the transportation of freight and baggage is enormously dear. The charge for twenty-five pounds is from 8 to 12 milreis,* according to its destination. When heavy goods, like china or ironware, are to be transported, the rate is considerably increased.

The nine waterfalls which are most formidable are called the Salto Theotonio, Marrinhos, Caldeirão do Inferno (furnace of hell), Salto do Girão, Pederneira, Aráras, Paredão, Ribeirão, and Madeira. They are generally doubled or

* Equal to from $4.37 to $6.55, at par of exchange.

trebled, their divisions taking the names *cabeca*, *carpo*, and *rabo* (head, body, and tail). To pass by one of these cataracts, freight and baggage must be discharged and carried overland. The big canoes often have to be taken from the water and drawn along the banks on wooden rollers; at other places they are towed or dragged over the rocks that cover the bed of the river. Happy is he who, through the capsizing of a canoe, does not lose some important piece of baggage. Especially happy is he who, through the carelessness of his Indian bearers, is not spilled half a dozen or more times into the thick, slimy mud near the water's edge.

Aside from their great beauty, these waterfalls are most interesting on account of the hieroglyphics and figures carved on the rocks at their sides. On one isolated rock in the middle of the stream I saw carved the imagery of the sun and the moon, symbolizing the work of nature. The ideas thus suggested seem to have penetrated from Cuzco, the ancient Inca capital, among the savages in the surrounding wilds. Such carvings as I have described are to be found on the headwaters of the branches of the river Beni, which have their origin near Cuzco.

Villa Bella, in which town and its vicinity most of my time in Bolivia was passed, is a pretty little settlement at the mouth of the river Beni, on the peninsula between that stream and the Mamoré. These two unite in forming the majestic Madeira, which after a progress of 800 miles, empties into the Amazon below the city of Manáos. The climate here is delightful, and an additional charm of the village is the superb and extensive view which it commands of each of the three rivers mentioned. It is also in sight of the great Madeira waterfall, whose rush and roar, day and night, unceasingly meet the ear.

The Beni country, the northeastern portion of Bolivia, is not very clearly defined. It comprises three of the provinces of that republic: Beni, of which Trinidad is the capital; Magdalena, with a capital of the same name; and Secene, of which Santa Anna is the capital. The supposed population is about 22,000, not counting the savage Indians. Skirting the banks of the Beni, the Purus, the Guapore, and the Madre de Dios rivers are the great rubber forests where is produced the finest "Pará rubber" known in the markets of the world.* The forests likewise contain a great wealth of useful woods. About 3,500,000 pounds of rubber are said to be exported yearly through the custom-house at Villa Bella, but for the correctness of these figures I cannot vouch.

Of our expedition to the rubber fields, I can give in a single letter only a mere reference to the points that most interested us. Our expedition included the rivers Orton (Thanamanu), and Caramanu. But before leaving Villa Bella we had a visit from an old California pioneer and his wife, who had been living two years in the La Paz district, without once seeing a white face. They told me of a Jewish peddler whom they met on their way to Villa Bella. He had a trunk full of playing cards, which he had hoped to sell, failing which he was disposing of the face cards to the credulous people as pictures of the saints. We saw one morning on our trip two Indians from a cannibal tribe who came in from the woods. Disgusting-looking creatures they were, with no clothing except a sort of ballet-skirt made of tufts of yellow grass. They were stained from head to foot with *ochóte*, a red dye, and over this were streaked lines of blue and black. Behind each ear, like a pen, was stuck a poisoned arrow, and through their noses were square wooden plugs.

We next visited the rubber fields on the Orton. Rubber, by the way, is here spoken of as *ouro vegetal* (vegetable of gold). For guides and interpreters we had eleven half-civilized Aruaná Indians, besides others, to serve as bearers. To reach the river Orton, one has to pass by a waterfall on the Beni called Esperanca, equal to the worst of those of the Madeira. The canoes and their contents have to be taken over ground in the same manner. After three days' voyage up the Orton, whose banks are covered with rubber trees, wild cacão, and the tonquin-bean, we reached the Colony Orton, which sends a thousand rubber-gatherers to its great fields. All that is necessary for their maintenance is found in this colony. The sugar cane, bananas, sweet-potatoes, and many fruits are grown in abundance. Receiving the warmest hospitality from this colony, we passed on to the Indian settlement Cuynéputhaná, whose chief received us kindly and, with two of his wives, accompanied us for some distance. This settlement seemed clean and well kept, and we saw a small *tijupal* (temple) with idols installed. The great seringal for which we were bound is called Flor de Ouro (flower of gold). After camping out all night, we started at dawn to explore the fields. The methods of rubber-gathering here are not unlike those of Pará and some other states, so often described in THE INDIA RUBBER WORLD. The rubber-gatherers are different, however, being descendants of the Canichanas, Baures, and Mobimas tribes of Indians, while in the Brazilian states they are a "mixed lot" but mostly Cearenses and half-wild Indians. The Caramanu (literally "rubber river") we ascended two miles, finding magnificent and compact rubber forests.

It may be of interest to INDIA RUBBER WORLD readers to mention briefly some other rivers of this rich rubber country. The Purus exports annually 1,500,000 pounds or more of rubber. It is reached by fifteen steamers which during the rubber season navigate its waters, carrying into the country every year new rubber-gatherers and necessary merchandise. The river Ituxy is navigable during the winter (rainy season) to a distance of 500 kilometers. There are few inhabitants on its banks, but its export of rubber is about 45,000 pounds.

In the past twenty years the population along the river Purus has largely increased. It now numbers about 70,000 souls, besides the aborigines. The district for which this river is the outlet has one village, the seat of its government or authority, with a revenue in excess of its expenses. The navigation of the river is free.

The Beni is the principal branch of the Madeira, running from the south to the north. From Ribeira Alta, at the

* See articles on the rubber fields of Bolivia and Peru by Hawthorne Hill in THE INDIA RUBBER WORLD of September 15, 1893, and H. Guillaume, F. R. S., in the issue for December 15, 1893.—THE EDITOR.

mouth of the Madre de Dios, to Reyes, it is navigated by a steam launch. The Madre de Dios is a great tributary of the Beni wider than this river itself. It is full of small islands, its banks are low, and it overflows during the rainy season. It is perhaps the richest river in rubber in South America.

The Orton runs parallel with the Madre de Dios and empties into the Beni a short distance below the confluence of the Madre de Dios. Its great natural riches, including India-rubber forests, have been explored for 200 kilometers above its mouth. The Ivon, Geness-naga, and Madidi rivers are navigated by canoes and their exportation of rubber is considerable.

India-rubber in Bolivia is generally quoted at so many bolivianos per arroba, a boliviano being 96 cents. The climate of the regions washed by the rivers Beni, Madre de Dios, and Orton, is in the dry season very pleasant and more healthful than is generally reported.

THE INVASION OF BORNEO.

THE wild man of Borneo soon will have no hiding-place left in his own country, at the rate at which western institutions are taking hold on that island. Fancy a telegraph-line through forests which, in our schoolboy days, were roamed by "head-hunters" and the ourang-outang, and that line connected by cable with Singapore and the world beyond! The use of money was unknown on the island until lately, but now a great banking-house has extended its connections to Sandakan with no more ado than when it established a branch in Wall street. In the export line, edible birds' nests for the Chinese have fallen far behind tobacco for expensive cigars for American smokers.

Borneo may not rank in importance with Manhattan island for a long time to come, but it is making commercial advancement none the less. It will not lose interest for the world as it ceases to be a land of mystery, but the contrary, on account of its growing importance. When the Pacific cable is laid—and it can be done only with the aid of Borneo's Gutta-percha—Borneo will be nearer to us, telegraphically speaking, than Australia or Pará now is, and that doubtless will stimulate direct trading between the Indian-ocean stations and the United States. Besides, the development is largely in the hands of English speaking people.

The growth of trading facilities in Borneo and the constantly-increasing amount of outside capital invested there will lead inevitably to a more thorough exploration of the forests for rubber and gutta, and a larger output of these commodities. At the latest stockholders' meeting of the British North Borneo Co., Mr. William C. Cowie, one of the directors, in enumerating the resources of the lands controlled by that company, mentioned "tens of thousands of tons of Gutta-percha and India-rubber." These are large figures, but not necessarily extravagant, since Borneo has a coast-line of 3000 miles, and Mr. Cowie's company practically owns 32,500 square miles of virgin lands, mostly forest-covered. Altogether there seems as little room left nowadays for the man afraid that India-rubber is becoming exhausted as there is on his native island for the wild man of Borneo.

UNCLE SAM BUYS IN SMALL LOTS.

MUCH figuring for little profit would seem to be involved in the business of furnishing India-rubber supplies to the government. Evidence of this is to be found in the specifications on which proposals were recently invited for supplies by the United States navy department, coupled with the number of contesting bidders and the small money value of the goods wanted. Condensed specifications are given here for two lots for the League Island navy-yard, for which bids were opened on October 23:

FIRST LOT.

Gum sheet—100 lbs., $\frac{1}{4}$ inch, cloth insertion, 4-ply; 140 lbs., $\frac{1}{16}$ inch, cloth insertion, 3-ply; 85 lbs., $\frac{1}{32}$ inch, cloth insertion, 2-ply; all special oxidized.

Gum sheet—40 lbs., $\frac{1}{4}$ inch, cloth insertion, 4-ply; 40 lbs., $\frac{3}{16}$ inch, cloth insertion, 3-ply; 60 lbs., $\frac{1}{8}$ inch, cloth insertion, 3 ply; 40 lbs., $\frac{1}{16}$ inch, cloth insertion, 2-ply; all special white oxidized.

Packing—5 lbs. asbestos, lubricated wick on spools; 5 quires cartridge paper; 300 balls (100 yds. each) corset-lacing; 43 lbs. flax, machine-laid, square, 1 inch; 43 lbs. ditto, $\frac{3}{4}$ inch; 37 lbs. ditto, $\frac{1}{2}$ inch; 11 lbs. ditto, $\frac{3}{8}$ inch; 5 lbs. ditto, $\frac{1}{4}$ inch; 100 lbs. Italian hemp (A), inlaid; 5 lbs. vulcabeston rope, $\frac{1}{4}$ inch; 5 lbs. ditto, $\frac{3}{16}$ inch; 2 sheets vulcabeston extra flexible, 1 sheet soft, and 1 sheet medium, all $\frac{1}{8}''\times36''\times36''$; 2 sheets ditto extra flexible and 1 sheet medium $\frac{1}{16}''\times36''\times36''$; 2 sheets ditto extra flexible, $\frac{1}{32}''\times36''\times36''$; 12 yards wire gauze, No. 20 mesh, No. 34 wire, small mesh, in roll 36 inches wide.

Tubing—26 feet of $\frac{3}{4}$ inch; 12 feet each of $\frac{1}{2}$ and $\frac{1}{4}$ inch.

Hose—300 feet for cleaning boilers, best quality 4-ply engine-hose, $2\frac{1}{2}$ inch diameter, 50-feet sections, navy standard couplings; 100 feet, $1\frac{1}{2}$ inch diameter, 3-ply, 20-feet sections; 100 feet $\frac{3}{4}$ inch diameter, extra heavy steam, 5-ply, for tube-cleaners.

SECOND LOT.

Gaskets—174 (boiler, manhole and handhole plates, special oxidized rubber), $15''\times11''$, $\frac{1}{4}$ inch cloth insertion, 4-ply; 58 triangular, $15''\times13''$, $\frac{1}{4}$ inch cloth insertion; 19 triangular, $15''\times12\frac{1}{2}''$, $\frac{1}{4}$ inch cloth insertion; 10 elliptical $15''\times12''$, $\frac{1}{4}$ inch cloth insertion, 10 ditto $14''\times10''$, and 10 ditto $10''\times8''$; 19 of $16''\times12''$, $\frac{1}{4}$ inch cloth insertion, 3-ply.

Grummets—125 of $\frac{3}{4}$ inch, 75 of $\frac{5}{8}$ inch, 50 of $\frac{1}{2}$ inch, round section; 125 for gage glasses. $1\frac{1}{2}$ inch outside diameter, $\frac{1}{4}$ inch thick, $\frac{11}{16}$ inch diameter hole; 50 round rubber rings $\frac{1}{2}$ inch, 25 of $\frac{5}{8}$ inch, and 50 of $\frac{3}{4}$ inch.

Also 2 sewing palms; 48 cotton hand swabs for cleaning paint work; 12 turnbuckles, hook and eye, galvanized iron; 100 balls (100 yds. each) white corset-lacing, $\frac{3}{32}$ inch diameter.

The names of the bidders, together with their respective estimates for the first and second lots, follow:

	No. 1.	No 2.
Francis Harral	$811.18	$246.77
Ira B. White	1,192.70	426.00
Philadelphia Machinery and Supply Co.	888.48	230.25
A. P. Swayer & Co.	686.90	281.73
W. H. Sayer	1,094.45	393.80
Boston Woven Hose and Rubber Co.	897.45	230.53

CHICLE may be imported into Canada free upon a declaration that it is for use in manufacturing. In the year ending June 30, 1893, the amount so imported reached 23,422 pounds, of the value of $8715.

CONDITION OF THE BICYCLE-TIRE TRADE.

THE bicycle trade has a live year in prospect, which means the consumption of a great deal of rubber. The past season has been a prosperous one for most of the factories, and the talk on all hands of increasing the output has led *Bearings* to utter a warning against overproduction. Prices will be lower, as the bulk of the production of wheels will be listed at $75, $100, and $125. There are some makers who believe that buyers can still be found for a good machine at the latter price. As for the effect of the striving for cheapness upon the quality and quantity of rubber used in tires, the *American Wheelman* says, in commenting upon a paragraph from THE INDIA RUBBER WORLD, that never were better tires made than in 1894. It adds: "Even if the makers were inclined to cheapen their tires as the price goes down (a movement that is inevitable), the necessity of turning out lighter and yet lighter tires would compel them to raise the standard of the materials used. To compensate them for this, the light tires effect a great saving in the amount of rubber used." As for the influence of the tire-makers' demand upon the market, it is asserted that the price of rubber in England always advances when this class begins to buy.

A feature of the bicycle business is the international trade. America is importing fewer bicycles and parts of bicycles than were taken a few years ago, while on every side one hears of exports of American products in this line. A. G. Spalding returned lately from France, enthusiastic about the prospect for exporting bicycles to that country, and he met R. P. Gormully in London and Paris organizing the export trade of his firm, while the *Irish Cyclist* chronicles as "another American invasion," the appearance in England of the Morgan & Wright tires. The Pope Manufacturing Co. have been for some time past represented on the continent by an agency in Paris, it being only natural that such an enthusiastic apostle of good roads as Colonel Pope should push his bicycles in the countries most famous for their highways. By the way, the American Dunlop Tire Co. are exporting material from New York to England for use in the "Dunlops" manufactured over there. Doubtless the American bicycle will yet figure very largely in our export trade, but *The Wheel* is right in reminding bicycle-makers that only good grades can long be exported at a profit.

The tendency of the hour is to decide upon the best features in tires and to determine their ownership through the medium of patent-infringement suits. Morgan & Wright are suing the Eastern Rubber Manufacturing Co. and the American Dunlop Tire Co. have a suit against the Erie Rubber Co. and the Wilson-Myers Co. But the chief news of the month is the announcement that the Dunlop tires hereafter will be furnished on "Columbia" bicycles at the same price as single tubes, and that they are the only detachable tires recommended by the Pope Manufacturing Co. Dunlop tires sold under this arrangement will be manufactured by the Hartford Rubber Works Co., under a license from the patentees. A similar "deal" has been made by the Dunlop people with the Union Cycle Manufacturing Co. (Boston), except that the tires will be made at the Dunlop factory, in New York. Two Canadian firms have ceased manufacturing tires to avoid infringement suits by the Dunlop company, and a third has applied for a license from the latter.

While the above review applies mainly to American manufacturers, conditions on the other side of the Atlantic are in general similar. There have been some important consolidations over there, including that of the three companies under the Seddon patents into one—the International Pneumatic Tyre Co., Limited. The Rudge and Whitworth companies have been combined under a capitalization of $1,000,000. The Stanley and National cycle shows, in London, will be held before the next issue of THE INDIA RUBBER WORLD, and before our own National show at Madison Square Garden, in New York. The latter, to be held in January, is expected to be a great success, particularly in the display of tires.

GOOD SHIPMENTS FROM SINGAPORE.

SINGAPORE'S exports of Gutta-percha for two-thirds of the present year give promise of a larger shipment for the whole year than was recorded in 1893. Last year's production, however, was exceptionally low. Indeed, it is by no means probable that the present year will show as large a total as 1890, or even as large as 1891. During the eight months of January to August, both inclusive, there were shipped from Singapore the following quantities of Gutta-percha:

To—	Piculs.		Pounds.
Great Britain	25,782	=	3,437,600
Europe (continent)	5,081	=	678,466
United States	878	=	117,067
Total	31,741	=	4,233,133

There were some good shipments during September, one steamer starting with 145,333 pounds for London. By the way, the total receipts of Gutta-percha in England from January 1 to August 31 were just 4,249,392 pounds, as against 3,634,288 pounds for the same months last year. A considerable part of the Gutta-percha which leaves the Straits Settlements under consignment for the continent finds its way eventually into the English market.

Borneo rubber is coming forward in good quantities. How far this may be due to the activity of the British North Borneo Co. is not known. In the figures given below, of the exports of Borneo rubber from Singapore for the first eight months of 1894, England's share is larger than her takings from the whole of the Straits Settlements during the entire year of 1892 or that of 1893. The Borneo shipments from Singapore were:

To—	Piculs.		Pounds.
Great Britain	5,254	=	700,533
Europe (continent)	5,673	=	756,400
United States	1,830	=	244,000
Total	12,757	=	1,700,933

During the year, up to the date of the latest advices, none but Borneo rubber had been shipped from Singapore, and the other grades were simply quoted as "nominal" in the local market report. This suggests that, Borneo having become linked to the world's cable system, there is nothing but the great cost that would be involved to prevent the collection on any day, by cable, of the prices of every important grade of India-rubber (including Gutta-percha), direct from the initial market in each case. It would be a strange-looking affair to most American readers if it included all the terms used to express weights and values in the different countries. Thus Gutta-percha was worth, at the latest advices from Singapore:

First quality	$120	@	$160	per picul.
Medium	80	@	120	"
White	30	@	80	"

The dollars current in the Straits Settlements being of the American Trade and Mexican type, naturally their value in sterling exchange is very low as compared with the gold dollars of the United States. It is probable that, considering the rate of exchange on the date of these quotations, first quality gum was worth 48 @ 64 cents per pound, gold.

A TRIFLE GOSSIPY.

MR. GEORGE FORSYTH, of the Boston Belting Co., and Hermann Reimers, of Reimers & Myer, are friends of long standing. Mr. Reimers does not smoke and therefore Mr Forsyth was very careful to offer him a cigar whenever he came to the office. Finally one unlucky day Mr. Reimers said:

"I will surprise you some day and take one and smoke it."

As soon as he was gone the other took a fat cigar, removed a part of its interior, put a potash tablet within it, and covered the hole so artfully that no one could suspect that it was loaded. Now the best thing about the potash load is that it goes off with a flash and a fizz that is absolutely harmless and yet just as startling as if it were gunpowder. In due course of time Mr. Reimers "selected" this cigar from a box of Perfectos, never suspecting that it had been prepared for him. Instead of smoking it then and there, however, he pocketed it and in spite of all remonstrance declared that he must be alone when he took his first whiffs. Two hours later as he sat in his own office, in came one of his customers from a distance. As he seated himself he drew out a cigar, but before he could light it Mr. Reimers said hospitably:

"Here smoke this. I know it is a good one," taking the gift cigar from his pocket.

"Oh, mine will do very well," was the reply.

"But I insist," said Mr. Reimers, and his guest consented. He lighted the cigar and sat facing his host, puffing contentedly, talking on different subjects, until the weed was about a quarter consumed. Seeing the look of enjoyment on his face his host full of innocent sympathy said, leaning forward to inhale the fragrant smoke:

"How does the cigar ——"

"Fiz-z-z-z-z—z z," spoke the potash tablet flashing into the inquirer's face.

It is difficult to say which of the two was the most startled, or to picture the horror of Reimers at the joke he had unwittingly played, or the wrath of the customer at the trap in which he was taken. Finally by exercising all of his eloquence, the importer was able to convince the customer that he was but the humble instrument in the hands of an overruling Providence, and peace was patched up. And this is how Mr. Reimers learned to smoke—by proxy.

* * *

Mr. William B. Banigan, Manager of the Marvel Rubber Co., has for some weeks past borne the honored title of father. The newcomer who conferred this dignity upon him is a little girl, and has been the recipient of many valuable presents. One, that given by Mrs. Joseph Banigan, deserves more than passing mention. It is a *fac-simile* in silver of a Marvel rubber shoe, the interior being filled with gold dollars. A gift so unique' beautiful and appropriate is seldom seen.

* * *

Mr. J. O. Stokes, of the Home Rubber Co., Trenton, is a very polite man and dislikes to hurt any one's feelings. It happened not long ago that he was riding over a fairly rough Jersey road, in a narrow buggy, his driver being a somewhat eccentric farmer. One peculiarity about this man was the way he drove. He held the reins in his left hand and kept the horse's courage up by a series of rapid jerks, his sharp elbow playing a tattoo on his companion's ribs.

"What do yur make daoun ter your mill?" asked the farmer.

"Rubber elbows, chiefly," was the courteous answer.

"I want ter know! What good be they?"

"Well, when you are riding with a man who doesn't know how to drive, you get him to put one of these rubber elbows on and it's easier on your ribs."

"I guess you had better drive the rest of the way," said the farmer after a pause.

* * *

A man not noted for his brilliancy complained to Walter S. Ballou, sales agent of the Woonsocket Rubber Co., that another had called him a d. f.

"What did he mean by that?" inquired the listener.

"Why, a d——n fool, I suppose," was the sullen reply.

"Oh, I guess not," said Mr. Ballou soothingly. "He may have meant 'Dull Finish.'"

* * *

It has often been remarked that no business has more simple little knacks in it than the rubber business. If one knows these "wrinkles" many things are possible that without such knowledge cannot be accomplished. An instance in point: Fred H. Jones, one of the bright traveling men for the Tyer Rubber Co., stepped into the warerooms of a prominent sporting goods house on one of his first trips out, and when he was most anxious to get acquainted with the trade in the right way, and found the senior partner trying to crowd a piece of pure gum cord through a hole in an iron clamp. The cord was a trifle larger than the hole and the rubber refused to be coerced into going through. Mr. Jones modestly suggested that he believed he could accomplish the result if he only had a piece of string. The job was thankfully surrendered to him, and he accomplished it in this manner: Tying the string around the rubber cord close to the end, he ran the string through the hole, pulled on it until the cord stretched and became about one-half its normal size, when it went through almost without touching the sides.

A NEW RUBBER BOOT AND SHOE COMPANY.

IT now look very much as if the plan for a factory for the manufacture of rubber boots, shoes, and possibly clothing, in Akron, Ohio, that has been talked of for a month past, is about to be consummated. The parties who are said to be at the head of the project are well known Ohio business men, and have ample means. Both of the leaders in the enterprise, Mr. Barber and Mr. Palmer, are identified with the Diamond Match Co. Mr. Barber is also the chief mover in the building up of the thriving town of Barberton, which is quite near Akron. The removal of the works of the Match Company from Akron to Barberton left a large plant idle and it is at this plant that the rubber business will be started so it is said. The officials of the company are naturally recicent concerning their plans and give but little away. The Akron *Review* says:

The new rubber company which is to take possession of the Diamond Match Company's plant in this city, as soon as vacated, is making active preparations for the placing of machinery in the building. The thing is a sure go and is source of much congratulation to know that it will be fully as large as the concern lost, in every way.

A RAINY DAY

MAKES YOU
THINK OF .

RUBBERS and UMBRELLA?

WE MAKE RUBBERS
NOT
UMBRELLAS.

RUBBERS

To WADE
WALK
RIDE **IN.**

To SIT
STAND
TALK **IN.**

For WET
MOIST
DRY **DAYS.**

For COLD
MILD
WARM **DAYS.**

We Make RUBBERS. Are You a Buyer?

BOSTON RUBBER SHOE COMPANY,

MAKERS,

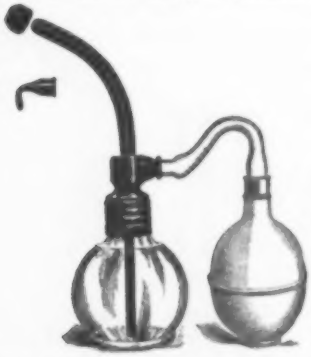
Because they know how.

NEW GOODS AND SPECIALTIES.

THE latest thing in pneumatic tires and one that has the special advantage of being a mechanically attached tire that will go on any rim, is what is known as the Vici. Some of its special points of advantage are: the cover is made of the most-durable stock known, the valve is the smallest, lightest and tightest, and is so set in the rim that it cannot turn around, and the inner tube is a vulcanized endless tube. The manufacturers claim that this is the only arrangement that will hold a detachable tire to a Crescent rim. Further than this the tire when deflated will not come off the rim unless it is taken off. The threaded wire which operates to loosen or tighten the gripband which holds the cover in place, is one of the neatest and most effective devices that tire users have yet seen. It is so simple that any one can use it; it cannot get out of order and at the same time is out of the way and out of sight, the only evidence of its existence when not in use, being a little nickel plated knob, about ⅛ inch in diameter, which appears just inside the wheel rim. Manufactured by the Boston Woven Hose & Rubber Co., Boston, Mass.

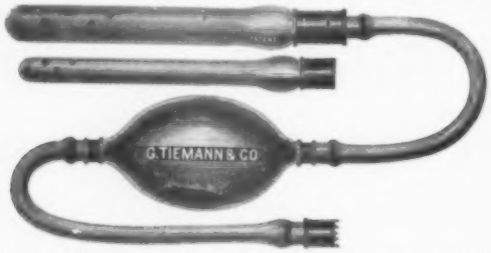
THE IDEAL CONTINUOUS SPRAY ATOMIZER.

FOR some time the Ideal Rubber Co. have been at work upon an atomizer which they have at last placed upon the market and which is having a phenomenal sale. The special point about this is that the liquid and air tube is made of one piece of hard rubber, and is so substantial that it is almost impossible to break it in ordinary use. The cap to the atomizer tube screws on the neck of the bottle therefore the tube cannot be blown off when air is forced into the bottle. In this atomizer the soft rubber cork is done away with and the washer is so placed that it will not come in contact with the liquid. The apparatus is so simple that every part of it can be replaced. This atomizer is constructed to spray oils, such as vaseline, alboline, etc., or medicines impregnated with oils, and furnishes a continuous spray. Manufactured by the Ideal Rubber Co., Brooklyn, N. Y.



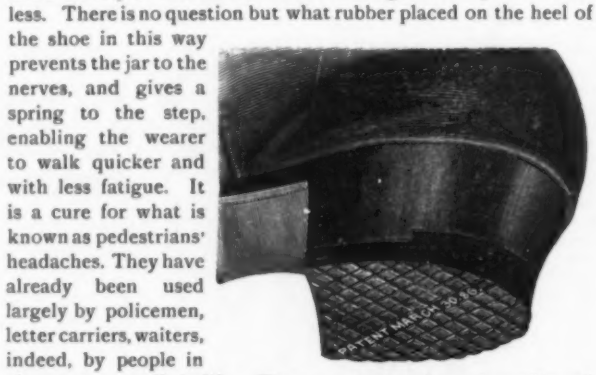
AN ALL-RUBBER SYRINGE.

THERE are faults with almost all kinds of bulb syringes, so the physicians say, and it was to overcome them that an M. D. invented that shown in the illustration. This syringe is made entirely of rubber, and the vaginal and rectal tubes are perfectly flexible. Instead of a terminal orifice that would throw a forceful straight stream, there are "velvet eyes" for a distance of nearly two inches from the end. These rubber syringe points do not lacerate the mucous membrane, nor produce the injury that may come from metallic tubes. The bulb and tubes are large and insure a copious supply of water. Manufactured by Geo. Tiemann & Co., 107 Park row, New York.



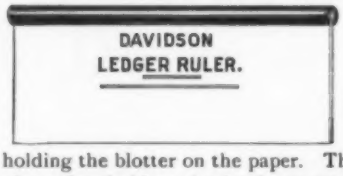
SAFETY RUBBER HEEL LIFTS.

THE specialty here described is by no means new but one that has special points of excellence, and is something about which inquiries are coming constantly from all parts of the country. The smaller cut shows the rubber lift itself, while the larger one shows it after being applied to the heel of the shoe. The special advantages of this are, that the corrugated surface of the lift prevents slipping, while the elasticity of the rubber makes walking both easy and noiseless. There is no question but what rubber placed on the heel of the shoe in this way prevents the jar to the nerves, and gives a spring to the step, enabling the wearer to walk quicker and with less fatigue. It is a cure for what is known as pedestrians' headaches. They have already been used largely by policemen, letter carriers, waiters, indeed, by people in almost every walk in life. They are made of good quality of rubber and are said to outlast leather heels. Manufactured in six sizes for ladies' and gentlemen's shoes. For sale by J. K. Krieg & Co., 39 Warren street, New York.



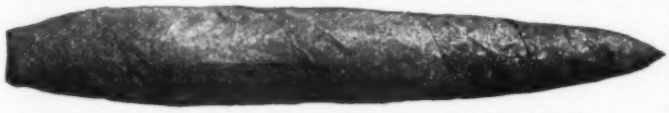
A COMBINED BLOTTER AND LEDGER RULER.

THE special advantages claimed for the round ruler and blotter shown in the accompanying illustration, are, the round ruler is by far the best style for desk use, but as heretofore made it has been a difficult thing to hold while in use. Combined with a sheet of blotting paper, however, it can be held perfectly firm, in fact it is almost impossible for it to slip when the left hand is holding the blotter on the paper. The blotter is soft enough to give a firm hold on the book or paper and allows the ruler to be placed just where it is needed for constant use, particularly for short rulings. This is known as the "ledger" ruler as it is most convenient for use on ledgers where there are so many short rulings. These of course often come near the bottom of the page, but this ruler can be used even at the very bottom line, by simply holding the blotter in place. The blotter can be removed at any time by simply slipping out the soiled one and putting a new one in its place. Manufactured by the Davidson Rubber Co., Boston, Mass.



A NEW EAR SYRINGE.

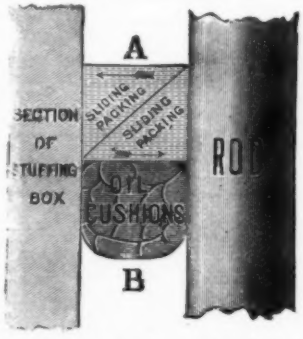
WHAT is known as the 1900 syringe is shown in the accompanying illustration. It is made of molded soft rubber and looks like a cigar. It is easily filled by compressing it until the



air is exhausted and then putting the open end in the liquid. The opening, which is at the smaller end, is closed by a black pin, so that when filled the contents will not leak out if it is not used at once. Manufactured by Morrison, Plummer & Co., 200 Randolph street, Chicago, Ills.

THE PERFECT PISTON PACKING.

A NEW packing is that known as the P. P. P., or Perfect Piston Packing. It is so made that one side forms an absorbent cushion for oils, thus keeping the rod well lubricated and removes the danger of gland breaking. The other side is made up of an excellent compound for stuffing box wear, in the shape of two wedges which, under pressure from the glands, slide one on the other, thereby compensating for the wear made by the rod. This packing is said to be impervious to the action of steam, oils, acids, alkalis and sulphurous waters, and a perfect preventive against loss of ammonia in the ice machine. It works equally well on heavy running pumps, and the most uncertain valve stem. On the steam hammer there is no indication of drip and it is not affected by the vibration of the rod. It is said to be the only packing that is an absorbent of the lubricants, thus insuring an oil film on the wearing surface at all times. This packing is made in 12 feet or continuous lengths as desired. As the strips of packing are as wide again as they are thick one coil around the rod is equal to two coils of the ordinary square packing. The strips are wrapped in muslin to keep them clean, and stamped with the trade mark of the maker. Manufactured by C. A. Daniel, 323 Market street, Philadelphia, Pa.



THE EAGLE DISC ERASER.

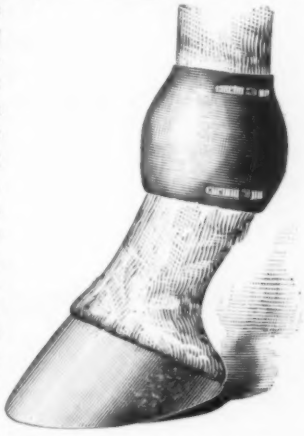
ERASERS of circular form are not altogether new, yet the one here shown is of a new rubber compound, and also made differently from any before brought out. The special point in the compound is that it will erase both ink and lead pencil marks. The center piece also, which is covered with a protective disc for the fingers, instead of being made of wood, is made of composition which is not affected by moisture, and is not liable to crack or in any way to get out of shape. This style of eraser has a large sale among typewriters on account of its shape, and also because of its erasive qualities. Manufactured by the Eagle Pencil Co., 73 Franklin street., New York.

A COMBINATION COMB AND BRUSH.

AN English inventor has brought out a combination comb and hair brush for which much is claimed. The larger portion of the novelty is made of hard rubber, that is the back of the comb and teeth, which occupy one-half of the under surface. The rest is set with a row of bristles which form the hair brush. Exactly how well this will brush the hair is a question, yet the novelty will sell to some without doubt.

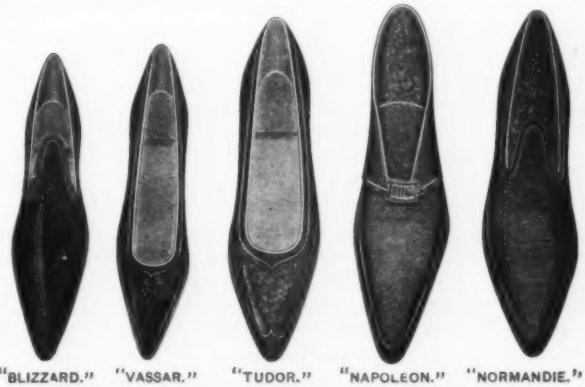
RUBBER ANKLE-BOOT FOR HORSES.

INDIA-RUBBER is coming into increasing use in the stable and among horsemen. One of the new things in this line is Hurd's rubber ankle-boot, the form and method of applying which are shown in the accompanying illustration. It has a polished surface outside and inside, the latter feature preventing it from holding sand or mud to chafe the joint. It is made in the form of a cushion around the ankle, so that the horse, when striking, does not bruise the joint. The boot may be buckled loosely, allowing it to turn as the horse strikes. Finally, it is claimed that this boot is lighter than leather boots, will wear longer, aud is more easily cleaned. Many liverymen, horse-owners, and veterinarians have indorsed the rubber ankle-boot, of which the sole manufacturers and selling-agents are the Bourne & Knowles Manufacturing Co., Cleveland, Ohio.



SOME PRETTY PICCADILLIES.

WHEN the "Piccadilly" toe first made its appearance it was not considered a thing of beauty nor was it thought that it would long continue popular. The writers on health topics criticised it, caricaturistsderided it, and the rubber shoe manufacturers ignored it, and all to no effect. It steadily won the popular regard until when the "Razor toe" appeared the Piccadilly seemed by contrast a sensible shape and its standing



"BLIZZARD." "VASSAR." "TUDOR." "NAPOLEON." "NORMANDIE."

was assured. Then it was that the progressive makers of rubber shoes made new lasts and came out with a full line of narrow toes that were really marvels of artistic work. In the illustrations that accompany this are shown five different shoes each of which are made up with the Piccadilly toe. To the ultra fashionable it may be well to state, in addition, that these same

rubber shoes are now made in razor toes. To briefly describe the shoes shown: The "Blizzard" is a high cut ladies shoe of a style that will be recognized as being one of the most popular sellers for the past two seasons. The "Vassar" is another ladies shoe ranging about half way between the very high and very low cut shoes. The "Tudor" is a light self-acting rubber made up for masculine wear. The "Napoleon" is a finely finished arctic, made up of the best Jersey cloth, with black fleece lining. The "Normandie" is the very latest style of overshoe. The upper is of fine imported cloth, with black fleece lining. It is made up in men's, women's, misses and children's sizes, and is one of the most popular and serviceable shoes known. All of these goods are packed in cartons, and are manufactured by the Wales-Goodyear Shoe Co.

A RUBBER HANDLED HAMMER.

A NOVELTY that is already selling remarkably well among hardware men is the tack hammer shown in the accompanying illustration. It is made of solid steel with full nickel plate, the workmanship being of the very finest. The important and

novel part of it is the fluted rubber handle, which enables one to grasp the hammer with great effectiveness. This fluted rubber is simply a sleeve in the shape of a rubber tube, that is slipped over part of the handle, and is really of considerable advantage. Manufactured by the Troy Nickel Works, Troy, N. Y.

A NEW FRENCH TIRE.

A NEW bicycle tire has just been devised by M. M. Gérard, city engineer of Bordeaux and Picon, which is intended to do away with the defects of all other tires. It consists in substance of a thin rubber tube whose inner surface is intersected by rubber disks perpendicular to it and placed close to one another; disks and surface are all molded in one piece. The disks are thicker at the circumference than at the center, to prevent the tube from sinking into the interstices between the supports, and they are made eccentric so as to distribute the resisting power of the surface without increasing the weight of the tire. They divide the tire into a very large number of air chambers, perfectly independent of one another, so that if one is pierced the others are not affected; these add to the elasticity of the tire and do not need to be filled with compressed air. The motion is as easy as that of the best pneumatic tires, while the accidents to which pneumatic tires are subject are done away with.

The tire can be applied at once to all rims for solid or hollow tires; for pneumatic tire machines some slight but inexpensive modification of the rim will be necessary.

HAVRE imported from Brazil last year 1,992,419 pounds of India-rubber, worth (at 5 francs to $1) $1,307,089.

* * *

IT is said that Hiram S. Maxim talks of putting pneumatic tires on the wheels of his flying machine. Before the machine leaves the ground it travels about 200 yards, and in alighting it strides over a good bit of ground.

INDIA-RUBBER LAW CASES.

THE appointment of a receiver to wind up the affairs of the Trenton Rubber Co. was applied for in one of the New Jersey courts on October 18, by Ida S. Alpaugh, administratrix of the late Spencer M. Alpaugh, who held 640 of the 2000 shares ($100) of the capital stock of the company. Alpaugh was one of the incorporators of the company in connection with Frank A. Magowan, Allan Magowan, and William P. Hays. On October 22 it was announced that Mrs. Alpaugh had withdrawn her application, and that her interest in the rubber company had been purchased by Frank A. Magowan.

Fred. W. Morgan and Rufus Wright, doing business in Chicago as Morgan & Wright, have sued the Eastern Rubber Manufacturing Co. for infringement of patents. The patents are No. 490,035, dated January 17, 1893, for a "new and useful improvement in the manufacture of pneumatic tires," and No. 502,047, dated July 25, 1893, for an "improvement in pneumatic tires and air-tubes." Suit has been brought in the United States circuit court at Trenton, N. J., and the defendants have until December 3 in which to prepare their answer to complainants bill. They have advertised, however, an "open letter" offer to file their answer earlier if Morgan & Wright will enter into an agreement to bring the litigation to a speedier end than is usual under the court rules, but Morgan & Wright's advertisements have contained no reply to this. Charles A. Page, of Chicago, is solicitor for the plaintiffs, and John R. Bennett, of New York, for the defendants.

The Pará Rubber Shoe Co. has been dragged into the Massachusetts courts again, on a suit for $500,000 brought by S. D. Warren, a former stockholder, and executor for the late S. D. Warren. The plaintiff charges false representations as to the condition of the company by one of its officers, now dead, and the payment of excessive commissions to the firm of Houghton, Coolidge & Co.

MAGNOLIA METAL COMPANY'S SUCCESSFUL INJUNCTION SUIT.

JUDGE LACOMBE, of the United States Circuit Court, granted, on October 29, 1894, the Magnolia Metal Company an immediate injunction against the Nassau Smelting Company of New York city (composed of Benjamin and Moses Lowenstein), restraining them from selling a metal called the MONGOLIA metal, which they have been assiduously offering in the New York market, and elsewhere, claiming it to be the same as Magnolia Metal, and confusing the trade very generally with the similarity of the names.

The Magnolia Metal Company informs us that it will prosecute any one to the full extent of the law who infringes in the slightest degree on its patent or trade-mark rights.

THOUGH the Chinese make little use of India-rubber now, they seem to have understood its manipulation at an early date. A work printed in Calcutta in 1798, containing the first announcement of the discovery of the "caoutchouc-vine" of Sumatra (it had not then been found in Assam, though the Pará product was well known), mentions that it is "evidently the substance from which the Chinese make their elastic rings." The discoverer of the Sumatran rubber also notes that he had, several years before, obtained articles made of "elastic gum" from the Chinese, from whom he had at the same time learned some of the properties of caoutchouc.

LETTERS TO THE EDITOR.

QUESTIONS ABOUT RUBBER IN MEXICO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Anticipating making some investments in Mexico, particularly in Tehuantepec, and having been referred to you as competent to furnish any information I might desire, I take the liberty of asking a few questions:

Is any rubber imported from the Tehuantepec district? If so, is there a ready market for it?

Is it usually shipped by the producer, or do the importers have representatives in that country?

Is the industry mainly in the hands of natives, or of foreigners?

Do you know of any reason, other than the loss of the use of capital for a number of years, why, from trees yielding from three to six pounds annually, worth from 35 to 45 cents per pound, the production of rubber would not be profitable?

The coarser grades will continue to be used by the mechanical-goods people, will they not?

The territory I am interested in is adjacent to a railroad. For any suggestions you may offer I will be obliged.

E. V. S. T.

Salina, Kan., September 28, 1894.

[THE above letter is selected as a fair specimen of the inquiries received at this office from time to time, with the idea that answers to it will apply in other cases as well. The exports of rubber from Mexico have never been large, and during the past five years have declined 75 per cent. The original sources of rubber there have been largely reduced through wasteful tapping of the trees, but undoubtedly valuable tracts of rubber forest are still to be found. Besides, the conditions for rubber cultivation are particularly favorable in Mexico, and this interest is receiving the attention of many private parties, besides being fostered by the government. The rubber exported from Mexico comes from the southern states, bordering both on the Pacific and on the Gulf of Mexico, but the greater part from the gulf ports, whereas Tehuantepec is a Pacific port. Doubtless the recently-completed Tehuantepec railway, by furnishing better facilities for reaching New York, will stimulate rubber-collecting on the western coast of the isthmus. Mexican rubber is classed in the markets with Nicaraguan and Colombian grades, and is likely to be in demand as long as rubber-mills exist. Not only is there not enough Pará rubber available to meet all demands, but some of the cheaper kinds are really preferable for certain purposes.

The Mexican rubber trade is too small to have become systematized in the same manner as in the Amazon valley, and there are no distinctively rubber buyers or traders in the former country. Whoever has rubber to sell—and the production has been mainly in the hands of Indians—can always hope to secure goods or money for it from the commission merchants at the nearest seaport. Little if any Mexican rubber is shipped to New York direct on account of the producers, but parties from the United States engaging in the rubber business there might find it to their advantage to combine their production and ship it direct.

The principal experiments in rubber-planting in Mexico so far have been in connection with coffee, the plants of the latter often requiring shade. Mr. F. O. Harriman, of Jaltipan, in the state of Vera Cruz, has the most important plantation on this basis so far. The *Mexican Financier*, of the city of Mexico, has published in Spanish a pamphlet recounting the experience in rubber-planting of Mr. Matias Romero, now the Mexican minister at Washington, who did not include coffee in his plantation.

Undoubtedly substantial advancement is being made in Mexico of late, under a progressive federal administration, coupled with the maintenance of better order in the various states, which has favored the investment of capital in new enterprises. The opening of railways into hitherto undeveloped states of southern Mexico, some of which are surpassingly fertile, renders the extension of commerce and industry much more easy and more profitable, and one of the new opportunities that has been afforded is the making accessible of rubber forests formerly out of reach.—THE EDITOR.]

WE NEVER SAW VARNISH "STRIPPED."

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your October issue there is an article taken from the *India Rubber and Gutta Percha Trades Journal* on the rubber shoe trade, and particularly the varnish used for their finish. I note one point the writer makes as follows:

"Some dealers believe when they stretch the shoe and the varnish cracks that the fault is with the rubber. This is an error. You can strip the varnish off altogether and the quality of the rubber won't be the least 'affected, and to avoid cracking' is the reason why the varnish is kept soft and tacky."

Will you inform me if there can be a separation of the varnish and the rubber, after the curing process has been properly completed, in such a manner as to represent a stripping of the former from the latter? If this should be the case, is it not more readily accomplished with a varnish that is "tacky" than with one that is comparatively hard? Very truly, J. H.

New York, Oct. 23, 1894.

WHAT DOES "GUTTA-PERCHA" MEAN?

TO THE EDITOR OF THE INDIA RUBBER WORLD: In dealing with the history of the word *gutta-percha* the English authorities, it seems to me, have got the cart before the horse. Mr. James Collins, who made a study of the subject, says in the "Encyclopædia Britannica" that *gutta* is Malaysian for "gum," and *percha* the name of a particular tree. The old name of Sumatra, where this tree abounds, was Pulo (island) Percha,—*i. e.*, "island of the percha-tree." This version has been very generally adopted in English works, and appears in the "Century Dictionary" without qualification. But it is interesting to note that Mr. H. G. Kennedy, long in the British consular service in the far east, has written in one of his reports on the commerce of Sumatra: "Gutta-percha takes its name from Sumatra, which is known to the Malays as Pulo Percha," or Percha island. Certainly it is more reasonable to suppose that the old-time Malays named the gum (or the tree producing it) for the island, than that the island, covered with a varied vegetation, should have gotten its name from a tree which, until modern times, had no special prominence. The island has long been famous for its gold and its spices, but the importance of its gum is of modern date. The island being already known as Percha—and we need not care why—the gum found there would naturally be distinguished by the name of the island—Percha gum, or *gutta-percha*—just as we say Pará rubber or Java coffee. By the way, this is the derivation of *gutta-percha* to be found in the "Grand Dictionnaire Universel." As

for the particular tree for which the island of Sumatra was formerly named, according to Mr. Collins, that gentleman has been obliged to admit that it is not known which of the many gutta-yielding trees the Malays chose. N. R. BLACK.

Baltimore, Md., September 25, 1894.

[AN official of an important manufacturing concern using Gutta-percha in good amounts, when the subject of the above letter was called to his attention, said: "We have never had time to study such questions; the source of the Gutta-percha supply is too far away. We only know that there is good gutta and bad, and we make it a point never to buy any of the bad." But doubtless others of our readers may have time now and then for less severely practical dealing with this subject, and they may be able to help in determining how and why Gutta-percha gets its name.—THE EDITOR.]

ONE OF MANY LETTERS ABOUT GUTTA PERCHA TISSUE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Please give me the names of the manufacturers of Gutta-percha tissue, *in this country*. I understand there are a few now. Why don't you have them in your buyers' list, and the importers of tissue also? OMAHA RUBBER BROKERAGE CO.

Omaha, Neb., Oct. 20, 1894.

IT INTERESTS SHOE RETAILERS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Last week I read an article from THE INDIA RUBBER WORLD to a shoe dealer from whom I was getting an order and he asked me if I could not have the paper sent to him six months on trial. I therefore enclose his subscription.

J. G. WOODLAND.

St. Paul, Minn., Oct. 15, 1894.

TO MANUFACTURE GOODS OF MINERAL RUBBER.

SOME three years ago it came to the knowledge of the editor of the INDIA RUBBER WORLD that there was in Utah an extensive and valuable deposit of elaterite. Information concerning it however was meager, and little except its existence was known, until within a few days when Mr. Wm. A. Perry the president of the Elaterite Rubber Mfg. Co., appeared in New York ready to answer in full the questions that had been propounded to him in 1892. It seems that during those years he had been busy securing the mine, and experimenting with the material, and most important of all finding the proper solvent to make it tractable. In all of this he has been successful. He not only owns the land upon which the mine is situated but further than this has leased from the government 300,000 acres of land surrounding it for a term of thirty years. The mine is in the Uintah Reservation in Utah and is about sixty miles from the railroad. It shows a surface cropping six feet wide and seven thousand feet long. A shaft one hundred and fifty feet deep has been sunk in it without reaching the bottom of the vein.

Before describing the goods that are to be made from this material it may be well to say a word about the material itself. There are five different products of the hydro-carbon of the petroleum series known as Asphalt, Gilsonite, Ozocerite, Wertzelite and Elaterite. The last named is also known as mineral rubber or mineral caoutchouc, and of them all most nearly resembles India rubber; indeed chemically it is the same with the exception of one ingredient which is easily added. It makes an excellent insulation, will not soften under 450° F. nor melt under 600° F. After it has been reduced to a dough by the proper solvent it can be mixed with sulphur and vulcanized without the addition of an atom of genuine rubber. The company now show samples of the unvulcanized gum which closely resembles clear black devulcanized recovered rubber. They have the same gum vulcanized into various forms of electrical insulators, such as wire coverings, trolley hangers, hard tubing, etc., etc. They also show samples of roofing papers that are very fine. It is their purpose to make belting, packing, hose, and a great variety of mineral rubber goods for which they have found their material adapted. The statement of the company which follows well outlines their plans.

Elaterite mineral rubber, elastic bitumen and mineral caoutchouc are synonymous terms for a hydro-carbon of the petroleum series, which in its chemical composition is practically the same as the rubber gum or caoutchouc of the tropics.

For a long time the substance has been known to exist in small quantities in foreign countries and its peculiar elastic qualities were recognized, but the limited amount and lack of some method for putting it to practical use has prevented its competing with the ordinary rubber of commerce.

Some five years ago elaterite rubber was discovered in large veins and deposits by the president of this company in the Uintah Mountains in Utah, and when this became known requests for samples began to come in from chemists and scientific men from different parts of the country who believed that they would discover some method of utilizing it. But all known solvents for such substances were utterly defied by elaterite, and any practical application of its known merits seemed doubtful until this company secured the services of Prof. C. E. Anthony, who has given much study to practical chemistry and who has discovered an effective and cheap solvent for elaterite or mineral rubber, which will now become a staple article of commerce. Prof. Anthony's discoveries are such that when the elaterite rubber is once dissolved it is found to possess the property of vulcanizing with the same ease as the vegetable rubber, and this company proposes to place upon the market at an early date, rubber packing, rubber belting, sheet rubber, insulated wire and other electrical goods, rubber paints and varnishes and a genuine flexible rubber roofing to replace the so called rubber roofing, manufactured of coal tar and asphalt now so much in use.

Owing to the cheapness of this substance it can be used pure, while the great cost of the vegetable rubber makes it necessary to adulterate for the more common uses.

This company not only has control of these deposits, but is protecting doubly its enterprise by letters patent granted both by the United States and foreign countries on its solvent for elaterite and for the different plastic compounds and processes of manufacture. This will give the Elaterite Rubber Manufacturing Co. a practical monopoly of the mineral rubber business of the world.

The company is formed under the laws of Colorado and capitalized at $500,000. The officers are Wm. A. Perry, Prest. and Genl. Mgr.; W. H. Delius, Vice-Prest.; Albert J. Gregory, Secy. and Treas. They have offices at 828 Postal Telegraph Building, New York, and expect to have their factory in Utah turning out goods within sixty days.

THE Keystone tire, manufactured by the Erie Rubber Co., seems to be growing in favor. Last season the company sold more than 1000 pairs. They are further improving for next season by putting into it a new elastic cloth that makes the tire far more speedy.

AN India-rubber heel has been patented by Mils L. Jacobsoen, of Tondem, Kiel, Germany, in his own country and in Great Britain. The heel is attached to a metal plate which in turn may be attached to a boot or shoe.

TRADE AND PERSONAL NOTES.

THE Hon. E. S. Converse has been elected president of the Boston Rubber Shoe Co., to fill the vacancy caused by the death of his brother, James W. Converse. He already held the offices of treasurer and general manager.

—The Goodyear's Metallic Rubber Shoe Co. [Wales-Goodyear] resumed work at their factories at Naugatuck on November 5, after a shutdown of two weeks.

—The Fairfield Rubber Co. are reported by the local newspapers to be running on full time, full force, and increased wages.

—On an importation of old rubber shoes the Jessup & Moore Co., of Philadelphia, had to pay a duty of 25 per cent., the port collector deciding that they were "manufactures of India-rubber." The importers brought suit before the United States circuit court, claiming that the old shoes should have come in free, and a verdict in their favor was rendered by the jury.

—The Overman Wheel Co.'s resilometer—for measuring the resiliency of pneumatic tires—described several months ago in THE INDIA RUBBER WORLD, has been patented abroad.

—Charles Macintosh & Co., Limited, have sold the Golding tire patents for America to the Gormully & Jeffery Manufacturing Co. (Chicago) According to *The Wheel* these patents are important. The macintosh people were defeated recently in a suit over the Clincher tire patents by the North British Rubber Co.

—The Hon. Edwin Wallace, who died at Rochester, N. Y., on October 24, at the age of seventy-one, was the senior member of Wallace, Elliott & Co. (New York) This firm, by filling the orders of its leather-shoe customers for rubbers has gradually come to handle more rubber shoes, it is said, than any other New York house.

—A new and superior vegetable black that is gaining many friends among the manufacturers of boots and shoes, clothing and enamelled cloth, is that made by the Langville Black & Carbon Co., Times Building, New York. It is remarkable in one particular that it is absolutely free from acid which makes it perfectly safe for any kind of rubber compounding.

—Kirk Brown, general manager for the American Dunlop Tire Co. (New York), spent three weeks on a recent business trip in the west, reaching home about the first of the month.

—The Rubber Wheel Tire Co. (Springfield, Ohio) exhibited their solid-tired vehicle-wheels at the convention of carriage-manufacturers in Philadelphia last month. At their New York office good progress in introducing the new tire is reported.

—The new owners of the Tuttle Rubber-Works at Holyoke, Mass., have become incorporated as the Jenkins Rubber Co., with Alfred B. Jenkins, president, and Charles Jenkins, treasurer, the capitalization being $30,000.

—The New York Belting and Packing Co., Limited, have a new bicycle-tire called the "League," which will be their leader for 1895. They will still make the "Whippet" and will soon bring out a detachable tire.

—Mr. Frank Whitehead, formerly superintendent of the Hamilton Rubber Co. (Trenton) has made a record as a builder of speedy steam yachts. So remarkable a faculty has he shown for this work that he has accepted several orders to build others and is fairly launched in the business of yacht building.

—Mr. Nathaniel Whitehead, of the Erie Rubber Co., has been quite ill, due largely to overwork. He is now however convalescent and again hard at work at his office in Erie.

—The Millville and "Alice" factories of the Woonsocket Rubber Co., resumed work on October 29. The works at Millville closed on September 12 to make repairs and the "Alice" mill, at Woonsocket, a little later, for the same purpose.

—It would seem that postal arrangements in Bolivia differ from those in most parts north of the equator, in respect to simplicity. Desiring to communicate with a certain rubber-collector, THE INDIA RUBBER WORLD inquired of an importing house for his address, receiving this reply: "A letter sent to 'Rio Madre de Dios, Bolivia, *via* Pará,' would probably reach him."

—A rubber boot and shoe advertisement in the London *Times* is in the nature of something new, and it is not surprising to the American reader to find that the only announcement of the kind printed lately was that of an American house—the Boston Rubber Shoe Co., whose goods are attracting deserved attention on the other side of the Atlantic.

—The Goodyear Rubber Co. have been running their mill at Middletown, Conn., on regular time, with a full force.

—A young man employed in a Philadelphia rubber-goods store recently departed from the conservative methods for which business in that city is noted—and landed in jail. He was employed by George P. Keating, of No. 50 North Second street, who charges him with the theft of $1000 worth of goods from his store. The clerk's defense was that he had merely hid the stock, that his employer might think the goods were selling well.

—The Gutta-Percha and Rubber Manufacturing Co., of Toronto, Ont., have completed an extensive brick addition to their factory on Lansdowne avenue.

—Recent improvements at the Middlesex Fells factory of the Boston Rubber Shoe Co. include a new 3½-story building 60 × 36 feet, and the laying of 10-inch iron pipe from the pump-house to hydrants at various points on the premises. This precaution against fire will require forty tons of pipe, at a cost estimated at $3000.

—Visitors to the late World's Fair will not be surprised to learn that the exhibit made there by the Singer Manufacturing Co., and which has been permanently established in Paris (at No. 8 Boulevard des Capuchines), has attracted much attention and admiration in its new location. *Le Temps* and other Paris newspapers have commented upon the wonderfully fine quality of work done by these sewing-machines—work which until recently was considered impossible except by hand.

—The Manufacturers' Rubber Co. is the name of a new rubber selling concern located at 174 Fulton street, New York. Mr. J. W. Kneupfer, for five years with the Commonwealth Rubber Co., is the general manager. He has associated with him, Mr. Edward T. Joyce, who for twenty years has been in the rubber and supply trade in New York. The company are handling mechanical rubber goods for city and export trade.

—The Bourne & Knowles Manufacturing Co., of Cleveland, Ohio, will hereafter manufacture Hurd's patent rubber ankle-boot, instead of the Fred H. Wood Co., of the same city.

—The Lycoming Rubber Co. have appointed Love & White as their agents in Minneapolis.

—The Middlesex Rubber Co. (Middletown, Conn.) have resumed operations. Their principal product will be dress-shields, which, on account of a recently-patented machine, they claim to be able to manufacture at great advantage with respect to the saving of time.

—It is reported that the box-making department of the New Brunswick (N. J.) Rubber Co. will be discontinued, it being considered preferable to buy boxes from a local factory hereafter.

—A new storehouse, 80 × 60 feet, is among the recent additions and improvements made by the Danversport (Mass.) Rubber Co.

—Mr, Joseph S. Capen, of Stoughton, Mass., a salesman for the Enterprise Rubber Co., and Miss Mabel Josephine Cook, daughter of Miller Cook, Jr., the extensive shoe-manufacturer of Whitman, Mass., were married last month and will make their home at Stoughton.

—Mr. Lester Leland, assistant treasurer of the Boston Rubber Shoe Co., and Mrs. Leland have returned from their summer tour in Europe.

—Rubber shoes figure pretty prominently in an article on the shoe trade of St. Louis, in the *Boot and Shoe Recorder*. The Hamilton-Brown Shoe Co., with a paid-in capital of $1,000,000, do a large business in rubbers, this department being considered one of the most important in the house. It is in charge of J. H. Murphy and is headquarters for Boston Rubber Shoe Co. goods. The rubber sales of the Brown Shoe Co. are said to reach nearly $500,000 a year, embracing the Candee, India Rubber Glove, New Jersey, and "Imperial" brands. Harry E. Wagner has charge of the rubber department of the Desnoyers Shoe Co., which is the western depot for the Boston Rubber Co.'s "Bell brand" goods. They also have the "Neptune" as seconds and the "Imperials" as thirds.

—R. H. Pease, manager of the Wales-Goodyear company's stores in San Francisco and Portland, in an interview in a Portland newspaper, reports a healthy condition of trade all along the Pacific coast.

—Roger B. McMullen & Co., selling agents for the tires manufactured by the Hartford Rubber Works Co., have removed their Chicago headquarters from Olive street to a more commodious store at No. 139 Lake street.

—Additional factory accommodations are needed by the young but growing Indianapolis Rubber Co., who have obtained a building permit for a $4000 brick extension to their establishment.

—Mr. E. H. Paine, of Boston, selling-agent of the American Rubber Co., has been out west on a business trip, extending as far as Kansas City.

—The twenty-seventh annual auction sale of India-rubber shoes by Benning & Barsalou, at Montreal, Que., took place on October 17. The offerings included 4800 cases of goods made by the Canadian Rubber Co. and about 1000 cases from other factories. There was a large attendance of buyers—nearly a hundred, from widely-separated parts of the Dominion—the bidding was brisk, and the prices realized better than those of any recent year.

—C. J. Bailey (Boston) is having quite a trade in golf balls. They are made for him by the Goodrich Co., in Akron, Ohio.

—Mr. J. Francis Hayward, of the Cable Rubber Co. (Boston) is off on a western trip.

—A handsome wall map showing the new Peerless combination matting has lately been sent to those interested in such goods the world over. It shows seventeen styles of block pattern mats, four of metal inserted step mats, and twelve of perforated mats. It is very tastefully gotten up and shows a few of the new styles designed by the Peerless Rubber Mfg. Co., of New York.

—Mr. McGregor, of Dundee, Scotland, the well known manufacturer of the "Thistle" and "Rob Roy" brands of linen hose, is visiting the rubber manufacturers in this country at present.

—It is said that the Western Lineoleum Co. (Akron) are turning out from three to five miles of table and shelf oil-cloth a day. So pressed are they by orders that they contemplate a further addition to their already large plant.

—Among the rubber men who were present at the recent Carriage Makers Convention in Philadelphia were Wheeler Cable, Wm. J. Cable, and J. Francis Hayward, of the Cable Rubber Co.; Walter N. Dole, of the Evans Artificial Leather Co., and Mr. F. C. Hood, of the Boston Rubber Co. Numbers of the companies had fine exhibits of carriage cloth, and a great many very satisfactory contracts were closed by the rubber men.

—The Johnson Rubber Co. (Brooklyn), well-known manufacturers of the rubber and boneblack valve, are soon to bring out a battery cell made of a new rubber compound which is said to be the most perfect for that use yet produced.

—The American Tubing and Webbing Co. (Providence) are sending out infringement notices warning anyone against using their patented rubber ends as applied to gas tubing.

—It is claimed by the manufacturers of the Simplicity 47 tire that during the past season there has not been one case on record where a set of these tires has required replacement.

—A woman was so anxious to obtain work at the factory of the U. S. Rubber Co. in New Brunswick that she climbed a fire escape and entered the factory through a window in the fourth story, and confronting the foreman, asked for employment.

—Mr. Wm. H. Adams, agent for the "Callahan" hose has his office at 115 Devonshire street, Boston, and not 163, as the types read in last month's issue.

—Mr. A. F. Townsend is now Vice-President of the Manhattan Rubber Mfg. Co. (New York) and Mr. Alexander Henderson, one of the large stockholders, is the treasurer. At the last directors' meeting of the company the capital was increased from $150,000 to $200,000.

—The Hardwick Rubber Co. (Trenton) in answer to an inquiry, is a family concern as far as ownership is concerned. The officers and stockholders are: F. W. Hardwick, president and manager; C. C. Hardwick, secretary; J. M. Burr, treasurer. The two latter, who are brother and brother-in-law to the manager, form the firm of Burr & Hardwick, importers, New York. The plant in Trenton is that formerly operated by Mr. L. F. Gooch under the name of the Rubber Valve & Spring Co.

—The Imperial Rubber Co. (New York) as agents for the Chas. Munson Belting Co., report a large local and export trade in that well-known brand of leather belting.

—Mr. Geo. B. Widner, selling agent of the Pacific Rubber Co. (Elizabeth, N. J.) has so impressed it upon the trade that his concern are making nothing but high grade goods, that the sales have wonderfully increased. Very soon he is going to double the capacity of the factory, and intends to keep pace with the leaders in the mackintosh business.

—At the great Mechanics Building in May next, is to be held a Pharmacy Fair. As rubber goods enter largely into the trade of the retail druggist, there will be an excellent opportunity ior druggists sundry manufacturers to display both their staple goods and their specialties. Full information can be obtained concerning this notable exhibition by addressing Benjiman Johnson, Gen'l Mg'r, 3 Franklin street, Boston, Mass.

—The Brown Shoe Co. (St. Louis) have sent us a large office hanger showing interior views of their offices, salesrooms, warerooms and shipping and factory departments, together with an exterior view of the immense building occupied. The pictures are reproductions from photographs by the new "chemigraph" process. One of the views shows the interior of the office of their rubber department. They send also net price-list for 1894-95 of the rubber boots and shoes they keep in stock.

—In addition to the bicycle companies mentioned elsewhere in this paper as having arranged to supply Dunlop tires on their wheels for 1895, the Sterling Cycle Works, of Chicago, have adopted the Dunlop as the only detachable tires to be used by them. The tires are to be made at the Dunlop Works in New York.

—One of the largest mat orders yet chronicled is that booked by the Manhattan Rubber Mfg. Co., of New York. It is for the Marquette Building in Chicago and calls for about 4000 square feet of matting made in special shapes and designs to fit the various floors.

—The New York office of the Brookhaven Rubber Co. has been removed from Nos. 86-88 Reade street to No. 36 Park place.

—It isn't a very good advertisement for asbestos for an asbestos-goods factory to burn down, but this is what happened in Cincinnati on October 24. It was owned by the Philip Carey Mfg. Co., whose loss is reported at $50,000, with insurance for $33,000.

—Proposals for furnishing 2000 rubber ponchos for the United States army will be received until Nov. 12 by Quartermaster A. F. Rockwell, No. 1428 Arch street, Philadelphia. Preference will be given to goods of domestic production. Proposals are invited both for goods of the standard now in use and for ponchos of lighter weight.

—The new power-station for the Nassau Electric Railway Co. (Brooklyn, N. Y.) will be 102 feet wide and 150 feet long, and will be constructed entirely of iron and steel, the whole designed and built by the Berlin Iron Bridge Co., of East Berlin, Conn. The roof will be covered with their patent anti-condensation corrugated iron-roof covering.

—We learn that Mr. P. Carter Bell, 64 Pine street, New York city, has commenced the manufacture of chemically pure chloride of sulphur and a new rubber substitute called "Caboxyline." First-class articles of this kind have been wanted by the trade for some time. We think Mr. Bell has made the right move in supplying the trade.

—Adolph Frederick Howard has been appointed British consul at Pernambuco, for the district embracing the state of that name, Ceará, and some other states.

—Major W. W. Harral, manager of the Fairfield Rubber Co., is one of the "Representative Men Identified with the Vehicle Industry," of whom the *Carriage Monthly* (Philadelphia) lately printed portraits and brief biographies. He is a brother of Mr. E. W. Harral, president of the company, and their connection with the vehicle industry grows out of their extensive manufacture of rubber carriage cloth.

—The daily output of rubber shoes by the Russian-American Rubber Co. was stated in an article copied from our London contemporary last month at 2500 to 3000 pairs per day. The London paper later corrected the figures, making them 25,000 to 30,000 pairs a day.

—The Newton Rubber Co. have out a summons and complaint against John S. Johnson, a bicycle champion, for breach of the contract under which he was to ride their bicycle-tire.

—The Diamond Rubber Co. (Akron, Ohio) advise THE INDIA RUBBER WORLD that it is not yet their intention to open an office in New York city, as reported in the daily newspapers.

—The Bowers Rubber Co., at San Francisco, Cal., will erect a two-story storehouse on the lot adjoining their factory on Sacramento street.

—The season has been a busy one for the Boston Rubber Shoe Co. It is said that as many as 50,000 pairs of boots and shoes have been made in their factories in a single day of ten hours, and this, too, for a good many days.

—Mr. John W. Craw, for many years in the laundry machinery business, has formed a copartnership with J. R. Grant, formerly with the New York Belting and Packing Co., under the firm name of the Knickerbocker Rubber & Supply Co., and have fitted up a fine store at 40 Cortlandt street, New York. They intend to make a specialty of all classes of mechanical rubber goods as well as general mill supplies.

—Mr. William Symington, of Liverpool, England, a large importer of crude rubber, is at present in this country visiting the various rubber manufacturers. He has been over many large plants, and is impressed with their completeness, as well as charmed with the frank courtesy that gave him the privilege of such interesting sight-seeing.

—Lockwood & Brown, of Amesbury, Mass., are making a new carriage-wheel, in which a rubber tire is fastened to a steel rim by a process which remains a secret.

A LIVE QUESTION IN MANAOS.

MANÁOS keeps fighting to become commercially independent of Pará. Why should she play second fiddle simply because Pará is nearer the seaboard? In this the interior rubber capital is not alone; the whole state of Amazonas is concerned. The fact is that without the rubber that first passes Manáos the trade of Pará would be far less important. Besides, the upper state has other products—Brazil nuts, for example—which are not found in the state of Pará, or else they are yielded in unimportant quantities. Yet Pará has gone on profiting from the shipment by her gates of all Amazonian produce. Moreover, Pará, within daily reach of all the world by cable, has been able to take advantage of Manáos shippers of rubber, who must wait for commercial news until the slow steamers make their thousand-mile trips. As well might St. Louis rest under the shadow of New Orleans—this is the comparison that the enterprising upriver merchants make.

The governor of Amazonas is interested in this matter. Dr. Edward Goncalves Ribeiro is a man of progressive ideas. The commercial independence of his state and city formed a prominent feature in his message at the opening of the legislative assembly. "I believe," he declared, "the time to be not far distant when the state of Amazonas will export *directly* all her rubber and other products." Then he reminded the legislators of the suggestions made in a former message for the emancipation of their state from the restrictions imposed by Pará. By the way, money has since been voted by the states of Pará and Manáos for a cable up the Amazon to the latter city, but this is a measure that can be made mutually advantageous.

Another point made by Governor Ribeiro is that his state should profit by a tax upon the exports in transit from the neighboring republics of Peru and Bolivia, whose commerce he describes as continuing to develop in a surprising manner. Already a treaty exists between Brazil and Peru in which frontier custom-houses are provided for, and Governor Ribeiro promises shortly to address the president of Peru with reference to arranging under this treaty a tax on rubber coming from the latter state. The amount of foreign rubber passing through Amazonas is given thus by the governor:

	Pounds.
January–June, 1893	2,780,155
July–December, 1893	2,546,499
January–June, 1894	2,205,214

Of the amount embraced in the last period of six months the share of Peru was 1,658,474 pounds, and that of Bolivia 546,740 pounds. Besides, the establishment of frontier custom-houses is expected to have a beneficial effect upon the tax receipts from the domestic production of rubber.

REVIEW OF THE RUBBER MARKET.

QUOTATIONS for crude rubber in New York continue about as reported a year ago. While buyers still restrict their orders to actual present requirement, holders are not disposed to make any concessions, preferring rather to put new arrivals of rubber in stock on the certainty that consumers will soon be forced to buy more extensively. The manufacturers are really busy. There are few if any mills now inactive, while in most cases there are reports of running on full time and full-handed. Many mills have recently added to their facilities, which is an indication of a larger business in early prospect. It now appears that the heavy summer orders received by the rubber-shoe factories on account of the extra 5 per cent. discount were from the South and West, while orders from eastern and other near-by dealers were delayed to the ordinary buying season. Their orders are now keeping the factories at work. With all the buying, however, it is not probable that stocks in the hands of dealers are so large, but that one real spurt of wintry weather would well nigh exhaust them. The mackintosh manufacturers are also busy and the mechanical goods people fairly so. The tire trade for the 1895 season is opening with some big orders, and the consumption of rubber in this direction promises to be larger than ever.

The boom in scrap rubber is worth mentioning. Holdings are now in few hands, who improved a period of quiet in the trade to get control of stocks, with the result of forcing the price up to 6 cents. It is reported that one grinding company has paid this price for 200 tons or more.

In regard to the financial situation, Messrs. Simpson & Beers, brokers in crude India-rubber and commercial paper in New York, advise us as follows:

"Owing to the increasing abundance of money in September, rates for commercial paper are again lower and we revise them as follows: Prime endorsed receivables are readily sold at 3½ @ 4 per cent. and prime single name notes at 4½ @ 5 per cent. from 3 to 6 months to run. Business has been limited in this line on account of the scarcity of paper. Unless there should be a revival in general business, rates for good paper will rule low during the remainder of the year."

The statistical position of Pará rubber in New York and elsewhere is as follows, the figures expressing tons:

	Fine and medium.	Coarse.	Total.
Stock, September 30, 1894	920	44	964
Arrivals, October	598	209	807
Aggregating	1518	253	1771
Deliveries, October	678	229	907
Stock, October 31	840	24	864
Stock in England, October 31			745
Deliveries in England, October			775
Pará receipts, October			1850
Stock in Pará, October 31			555
World's supply, October 31 [Excluding caucho]			3001

PRICES FOR OCTOBER (ISLAND RUBBER).

	1894.		1893.		1892.	
	Fine.	Coarse.	Fine.	Coarse.	Fine.	Coarse.
First	68	46	70	48	67	45
Highest	69⅛	47	70	49	67	45
Lowest	67½	45	66	46	65	44
Last	69¼	47	66	46	66	44

The latest quotations in the New York market are:

Pará, fine, new t a	68@71	Sierra Leone	20@38
Pará, fine, old	73@75	Benguela	47@48
Pará, coarse, new t a	46@56	Kongo Ball	37@40
Pará, coarse, old		Cameroon Ball	35@36
Caucho (Peruvian) strip	45@46	Flake, Ord. and Lump	24@25
Caucho (Peruvian) ball	49@41	Accra Flake	14@15
Mangabeira, sheet	35@39	Liberian Flake	21
Esmeralda, sausage	48@49½	Primest Pinky Madr	59@61
Guayaquil, strip	30@35	Madagascar, black	42@44
Nicaragua, scrap	46@48	Borneo	26@45
Nicaragua, sheet	44@45	Gutta-percha, fine grade	1.30
Thimbles	35@36	Gutta-percha, medium	1.00
Tongues	32@36	Gutta percha, hard white	85

IMPORTS FROM PARA.

THE imports in detail of rubber direct from Pará at the port of New York, since our last report, have been as follows, expressed in pounds:

October 2.—By the steamer *Arabian Prince*, from Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Lawrence, Johnson & Co.	11,000	1,000	26,400	.....	38,400
Sears & Co	300	300	500	4,500	5,600
Total	11,300	1,300	26,900	4,500	44,000

October 13.—By the steamer *Grangeuse*, from Pará and Manáos:

New York Commercial Co.	136,300	14,400	59,200	1,000	210,900
Reimers & Meyer	81,000	20,100	40,400	1,000	142,500
Joseph Banigan	75,700	9,000	53,400	500	138,600
Boston Rubber Shoe Co.	27,500	4,000	.....	.....	31,500
Shipton Green	16,500	300	3,00	.....	19,800
P. Lima	2,100	.....	300	.....	2,400
Total	339,100	47,800	156,300	2,500	545,700

October 26.—By the steamer *Gregory*, from Pará:

New York Commercial Co.	238,500	30,200	63,400	1,500	333,600
Joseph Banigan	34,600	3,500	63,700	.....	101,800
Reimers & Meyer	72,100	30 300	33,500	300	136,200
Lawrence, Johnson & Co.	12,800	1,100	3,000	.....	16,900
Brown Brothers	29,600	2,800	8,600	.....	41,000
Otto G. Mayer & Co.	33,600	2,000	.....	.....	35,600
P. Lima	700	.....	.....	.....	700
Total	421,900	69,900	172,200	1,800	665,800

November 1.—By the steamer *Hubert*, from Manáos and Pará:

Joseph Banigan	54,900	15,900	69,600	20,000	160,400
New York Commercial Co.	107,500	14,600	26,400	3,000	151,500
Reimers & Meyer	37,000	24,800	20,200	700	82,700
Shipton Green	47,100	4,500	11,600	.....	73,200
Ahrenfeldt	2,500	.....	.....	36,700	39,200
Boston Rubber Shoe Co.	41,000	10,000	.....	.....	51,000
Lawrence, Johnson & Co.	2,100	300	11,400	.....	13,800
To Order	18,000	1,100	2,200	....	21,300
Total	320,100	71,200	141,400	60,400	593,100

October Imports from Pará	1,566,200
September Imports	1,386,000
August Imports	964,500
July Imports	645,300
June Imports	1,591,300
May Imports	926,300
April Imports	2,566,868

OTHER PARA ARRIVALS.

October 11.—By the steamer *Teutonic*, from Liverpool:	
Reimers & Meyer	21,000
October 12.—By the steamer *La Champagne*, from Havre:	
Otto Mayer	14,700
October 30.—By the steamer *Lucania*, from Liverpool:	
Reimers & Meyer	39,311
George A. Alden & Co.	66,096
October 30—By the steamer *Pocasset*, from Liverpool:	
George A. Alden & Co.	83,631
Total Pará imports via Europe	224,738

OTHER NEW YORK ARRIVALS.

BELOW will be found in detail the imports at New York, during October, 1894, of India-rubber from Mexico, Central America, and South America, other than Pará grades; also, arrivals at New York of African and East Indian sorts:

CENTRALS.

	POUNDS.
OCT. 1—By the *Irrawaddy*=Ciudad Bolivar:	
Joseph Agostini	2 800
OCT. 1.—By the *Seguranca*=Mexican ports:	
Samuel Hermanos (Vera Cruz)	450
Jose Menendez & Co. (Vera Cruz)	300
H. Marquardt & Co. (Tuxpan)	450
Louis Monjo, Jr., & Co. (Tuxpan)	300
Total	1,500
OCT. 2.—By the *Hudson*=New Orleans:	
To Order	2,550
OCT. 4.—By the *Regulus*=Honduras:	
F. Probst & Co. (Nicaragua)	1,350
Eggers & Heinlein (Nicaragua)	850
Leaycraft & Co. (Nicaragua)	100
Total	2,300
OCT. 2.—By the *Finance*=Colon:	
Munoz & Espriella	1,815
H. Marquardt & Co.	135
Hoadley & Co	126
G. Canton	554
A. Santos & Co	3,500
W. Loaiza & Co	83
M. Toklas	628
J. Aparicio & Co.	1,179
Bock & Co	2,072
Total	10,848
OCT. 7.—By the *Orizaba*=Mexican ports:	
Louis Monjo & Co.	300
H. Marquardt & Co	150
F. Probst & Co.	150
Total	600
OCT. 8—By the *Hogarth*=Bahia:	
To Order	17,100
OCT. 8.—By the *Knickerbocker*=New Orleans:	
W. R. Grace & Co. (Nicaragua)	9,100
W. H. Crossman & Co. (Nicaragua)	8,250
Earle Brothers	4,950
Total	22,300
OCT. 9.—By the *Adirondack*=Cartagena:	
W. R. Grace & Co	1,650
Thiele & Quack	750
G. Amsinck & Co	450
A. N. Rotholz	750
Total	3,400
OCT. 11.—By the *Alliance*=Colon:	
New York Commercial Co.	23,200
Hirzel, Feltman & Co	648
A. Santos & Co	10,996
J. M. Ceballos & Co.	8,939
Bock & Co	342
Piza, Nephews & Co	809
G. Amsinck & Co	4,503
C. R. Flint & Co.	5,221
Total	53,728
OCT. 15.—By the *Yumuri*=Mexican ports:	
Thebaud Brothers	900
H. Marquardt & Co.	150
Total	1 050
OCT. 16.—By the *Athos*=Port Limon: [All Nicaragua.]	
G. Amsinck & Co	6,300
W. R. Grace & Co	500
W. H. Strout	1,000
Munoz & Espriella	900
Hoadley & Co	300
Total	9,000
OCT. 17.—By the *New Orleans*=New Orleans:	
Earle Brothers (Nicaragua)	3,400
OCT. 22.—By the *Seneca*=Mexican ports:	
H. Marquardt & Co. (Tuxpan strips)	450
E. Zaranz & Co.	300
Theodore Herrmann	300
Total	1,000
OCT. 23.—By the *Advance*=Colon:	
A. Santos & Co	11,876
Hoadley & Co	9,662
Hirzel, Feltman & Co	3,800
W. R. Grace & Co	11,656
G. Amsinck & Co	1,589
Bock & Co	1,803
I. Brandon & Co	437
J. M. Ceballos & Co.	4,655
New York Commercial Co.	10,600
Dumarest	1,119
Lanman & Kemp	3,600
A. M. Capen	600
C. R. Flint & Co	1,980
Rolden & Van Sickle	1,483
Total	61,853
OCT. 23.—By the *Galileo*=Bahia:	
Reimers & Meyer	18,100
OCT. 23.—By the *Alene*=Cartagena:	
W. R. Grace & Co	1,500
J. Ferro	1,300
Peabody	100
For London	2,100
Total	5,000
OCT 25.—By the *Colombia*=Colon:	
Andreas & Co	1,616
J. M Ceballos & Co	1,684
C. R. Flint & Co	700
J. Aparicio & Co	4,893
Eggers & Heinlein	883
R. F. Cornwall	1,524
Munoz & Espriella	430
Total	11,930
OCT. 25.—By the *Panama*=Vera Cruz:	
P. Harmony's Nephews	1,200
OCT. 26.—By the *Ardamosc*=Mexican ports:	
H. Marquardt & Co	600
F. Probst & Co.	200
Total	800
OCT. 29.—By the *Seguranca*=Mexican ports:	
Theodore Hermann	800
Louis Monjo & Co (Tuxpan strip)	300
H. A. Forrest & Co. (Tuxpan strip)	300
Total	1,400
OCT. 30.—By the *Welhaven*=Cabo Gracias de Dios:	
Eggers & Heinlein (Coast scrap)	33,275
Eggers & Heinlein (Nicaragua)	300
Total	33,575
OCT. 30.—By the *Knickerbocker*=New Orleans:	
To Order	9,100
Total Centrals for October	285,600
Total for September	243,535
Total for August	204,342
Total for July	176,747
Total for June	212,186
Total for May	174,905

BALATA.

	POUNDS.
OCT. 7.—By the *Prins Willem I.*=Paramaribo:	
Earle Brothers	5,400
George A. Alden & Co	100
G. F. Lough & Co	2,900
Total	9,400
OCT. 30.—By the *Prins Willem II.*=Paramaribo:	
W. R. Stockbridge	1,300
To Order	13,900
Total	15,200

AFRICANS.

	POUNDS.
OCT. 2.—By the *Majestic*=Liverpool:	
Reimers & Meyer	39,678
George A. Alden & Co	22,601
OCT. 2.—By the *Noordland*=Antwerp:	
George A. Alden & Co	66,018
OCT. 2.—By the *Lucania*=Liverpool:	
Reimers & Meyer	1,174
OCT. 2—By the *Prussia*=Hamburg:	
George A. Alden & Co	3,687
OCT. 11.—By the *Teutonic*=Hamburg:	
George A. Alden & Co	26,598
OCT. 11.—By the *New York*=Southampton:	
George A. Alden & Co	6,532
OCT. 11.—By the *Rhaetia*=Hamburg:	
Reimers & Meyer	3,642
OCT. 11.—By the *Nomadic*=Liverpool:	
Windmuller & Roelke	1,206
George A. Alden & Co	52,869
Reimers & Meyer	2,291
OCT. 12.—By the *Scandia*=Hamburg:	
George A. Alden & Co	118,520
OCT. 12.—By the *Augusta Victoria*=Hamburg:	
Reimers & Meyer	20,876
OCT. 12.—By the *La Champagne*=Havre:	
Reimers & Meyer	10,512
OCT. 17.—By the *Persia*=Hamburg:	
W. A. Brown & Co	32,000
OCT. 23.—By the *Bovic*:	
Reimers & Meyer	2 353
OCT. 23.—By the *Cufic*=Liverpool:	
George A. Alden & Co	5,958
OCT. 23.—By the *Umbria*=Liverpool:	
Joseph Cantor	6,216
OCT. 17.—By the *Persia*=Hamburg:	
Reimers & Meyer	54,172
George A. Alden & Co.	6,201
Otto G. Mayer	14,911
OCT. 23.—By the *Berlin*=Southampton:	
George A. Alden & Co	23,846
OCT. 25.—By the *Obdam*=Rotterdam:	
Reimers & Meyer	7,903
OCT. 25.—By the *H. H. Meier*=Hamburg:	
Otto G. Mayer	22,876
George A. Alden & Co	44,567
OCT. 25.—By the *Runic*=Liverpool:	
Reimers & Meyer	17,862
OCT. 30.—By the *Majestic*=Liverpool:	
Reimers & Meyer	9,650
OCT. 30.—By the *New York*=Southampton:	
Windmuller & Roelke	5,200
Reimers & Meyer	9,773
OCT. 30.—By the *Lucania*=Liverpool:	
Otto G. Mayer	25,139
OCT. 30.—By the *Rotterdam*=Rotterdam:	
George A. Alden & Co	82,616
OCT. 30.—By the *Pocasset*=Liverpool:	
George A. Alden & Co	116 977
OCT. 30.—By the *Moravia*=Hamburg:	
George A. Alden & Co	42,416
OCT. 30.—By the *Britannic*=Liverpool:	
W. A. Brown & Co	862
OCT. 30.—By the *Westernland*=Antwerp:	
Reimers & Meyer	2,355
Total Africans	907,017
Total Africans for September	161,096
Total Africans for August	216,544
Total Africans for July	209,792
Total Africans for June	324,908

EAST INDIAN.

	POUNDS.
OCT. 11.—By the *New York*=Southampton:	
Reimers & Meyer	23,273
OCT. 11.—By the *Pyrrhus*=Singapore:	
R Soltau	22,267
Reimers & Meyer	4,629
Windmuller & Roelke	27,733
OCT. 17.—By the *Paris*=Southampton:	
George A. Alden & Co	14,466
Total East Indian	92,368
Total East Indian for September	123,104
Total East Indian for August	72 167
Total East Indian for July	218,731
Total East Indian for June	51,121

BOSTON ARRIVALS.

	POUNDS.
OCT 1.—By the *Durham City*=London:	
George A. Alden & Co., Africans	12,000
OCT. 5.—By the *Venetian*=London:	
George A. Alden & Co., E. India	11,900
OCT. 12.—By the *Hungaria*=London:	
George A. Alden & Co., Africans	5,550
OCT. 16.—By the *Catalonia*=Liverpool:	
Reimers & Meyer, Pará	22,700
OCT. 16.—By the *Virginian*=London:	
George A. Alden & Co., Africans	3,100
OCT. 22.—By the *Pavonia*=Liverpool:	
George A. Alden & Co, Africans	31,740
OCT. 22.—By the *Borderer*=London:	
George A. Alden & Co, E. India	1,700
OCT. 22.—By the *Ottoman*=Liverpool:	
U. S R. Co., Africans	16,000
OCT. 29.—By the *Sagamore*=Liverpool:	
George A. Alden & Co., Pará	15,900
George A. Alden & Co., Africans	740
Total for Boston	120,730
Total for September	48,460
Total for August	105,200
Total for July	58,000
Total for June	20,500

NEW ORLEANS.

OCTOBER.

	POUNDS.	VALUE.
From Nicaragua	59,728	$20,318

RUBBER ARRIVALS AT PARA.

RECEIPTS of rubber at Pará during the crop year ending ending June 30 were larger than for the preceding year by almost 3 per cent., although the figures for the second half of the year—namely, during the months of January to June, inclusive—were smaller than for any half-year for some time past. The figures in detail follow:

	1892-93.	1893-94.
First six months	21,120,000	22,583,002
Last six months	20,845,000	20,629,396
Total	41,965,000	43,212,398

These figures are supplied by a correspondent of THE INDIA RUBBER WORLD at Pará and express in pounds the total receipts, including rubber in transit from neighboring republics.

AFRICAN RUBBER IN ENGLAND.

THE market in Europe has continued firm, and some grades have advanced owing to the American demand. We note the following sales, a large part of which is for shipment to America: 13 tons Borneo at 1/9; 27 tons Mozambique Ball at 1/10@2/4½; 70 tons Niger Niggers at 1/4¼; 75 tons Madagascar Niggers at 1/2½@1/6¼; 60 tons Benguela Niggers at 1/10¾@ 1/11½; 125 tons Thimbles at 1/4⅞@1/5¼; 50 tons Accra Buttons at 1/9@1/10¼, and 40 tons Loandas at 1/11@2/4.

In addition to sales noted above, about 150 tons Fine Pará have been sold at prices ranging from 2/10 for new to 3/ for old rubber. The rubber has already largely gone into consumption.

Free Want Department.

SITUATION WANTED.—By young man in office of a rubber or hose manufacturing company. For many years connected with the Eureka Fire Hose Co. as book-keeper and correspondent at their Chicago branch. Would also consider proposition as travelling salesman. Address Edwin W. Wight, 3827 Ellis Ave., Chicago, Ill. (Nov. 2t)

A SALESMAN who has had several years' experience on the road selling mechanical rubber goods would like a position with a first class rubber manufactory. Good references and moderate salary to start with. Address, C. W. S., INDIA RUBBER WORLD. (Nov.)

WANTED.—A small rubber mixer for experimental purposes, from 12 to 15 inch face by 6 to 10 inch diameter. Address, Lock Box 630, Andover, Mass. (Nov.)

WANTED.—First-class workman on rubber belting, packing, etc. State experience and wages expected; good opportunity to the right man. Address Packing, P. O. Box 653, N. Y. (Nov.)

WANTED.—Position as rubber reclaimer to reclaim old boots and shoes and rubber scrap of all kinds, by the chemical process. Six years experience as above. Address A. B., INDIA RUBBER WORLD. (Nov.)

WANTED.—A man of experience in women's mackintoshes. One who has sold wholesale trade preferred. Address C B., INDIA RUBBER WORLD Office. (Nov.)

RUBBER CLOTHING SALESMAN.—Ten years experience, eight years with last house, best of references, large acquaintance with wholesale and retail buyers in Ohio and Kentucky, desires an engagement for 1895 or immediate. Will travel any territory. Address F. H. F., P. O. Box 312, Plantsville, Conn. (Nov.)

WANTED.—Position as superintendent in a factory manufacturing hose, belting, packing and specialties. Eighteen years experience—nin years as superintendent. Address, "Compounder," care of INDIA RUBBER WORLD. (Oct.)

WANTED.—Situation by a young man who has traveled in Pennsylvania and New Jersey. Eight years experience handling mechanical goods. Address, Earnest, care of INDIA RUBBER WORLD. (Oct.)

A PARTY having the knowledge requisite to producing a good article of "leather cloth," or imitation-leather on cloth, either with or without India-rubber, wishes to enter into some practical arrangement with a good company for the manufacture of the same. Address S. A. King, 1538 Ogden street, Philadelphia, Pa. (Oct.)

WANTED.—A first-class calender man, one who thoroughly understands the mixing and running of stocks for mechanical and sundry purposes, and who also has the qualifications necessary for taking entire charge of same, if called upon to do so. None but a thorough and efficient person need apply. Address "FACTORY," care of INDIA RUBBER WORLD. (Oct.)

POSITION WANTED.—A man with ten years' experience in handling a full line of rubber goods, is open for engagement. A position inside or as city man preferred. Best of references. Address, G. C. C., 8 Gibbs street, Rochester, N. Y. (Oct.)

WANTED.—A thoroughly practical man, who understands the manufacture of all kinds of tubing, washers, gaskets, roll covering and special sundries. An active man, capable of handling men, is especially desirable. Address, "Boston," care of INDIA RUBBER WORLD. (Oct.)

WANTED.—By an experienced rubber man, position as manager for a rubber house, or any inside position. Address, X-42, care of INDIA RUBBER WORLD. (Oct.)

A SALESMAN who has had several years experience selling rubber boots and shoes to the jobbing trade for leading manufacturers is open for engagement. Refers to the executive officers of the United States Rubber Co. Address, O., Care of THE INDIA RUBBER WORLD. (Oct.)

TRAVELLER WANTED.

A man of experience in the New England States who has already been working that field and has an established trade in mechanical rubber goods. Only those with most excellent reputation and guaranteed established trade need apply. Write, B. A. J., Box 202, Trenton, N, J. (Oct.)

H. O. CANFIELD,

BRIDGEPORT, CONN.

MANUFACTURER OF

Moulded Boiler Gaskets, Pipe Unions, Bumper Tips

AND ALL CLASSES OF

MOULDED RUBBER WORK

FOR MECHANICAL PURPOSES.

Estimates for Moulds and all kinds of Work on Application.
Correspondence Solicited.

CHLORIDE OF SULPHUR AND RUBBER SUBSTITUTES

Produced specially for the Rubber Trade. **Send for Samples and Prices.**

Mention the India Rubber World when you write

P. CARTER BELL,
F. I. C. and F. C. S.,
Manufacturing, Analytical & Consulting Chemist,
64 PINE ST., New York City.

Consultations invited on all kinds of Rubber Manufacturing Processes and FORMULAS furnished for same.